156013

PRETREATMENT PROGRAM

for the

VILLAGE OF SAUGET, ILLINOIS
PHYSICAL-CHEMICAL WASTEWATER TREATMENT FACILITY

RUSSELL & AXON
ENGINEERS-PLANNERS-ARCHITECTS
INCORPORATED

March, 1981

RUSSELL & AXON

Established in 1920

Engineers • Planners • Architects

Incorporated

March 9, 1981

Mr. Frank J. Basile, Jr., P.E.,
Client Project Manager
American Bottoms Regional Wastewater
Treatment Association
2897 Monsanto Ave.
Sauget, Illinois 62206

Re: Village of Sauget, Illinois Pretreatment Program Report
R&A No. 032-761-01-4

Dear Mr. Basile:

Russell & Axon respectfully submits the final report concerning the Village of Sauget Pretreatment Program. This report sets forth all proposed recommendations and considerations for the Village to establish a Pretreatment Program for its Physical-Chemical Wastewater Treatment Facility.

We would be pleased to provide the Village of Sauget with any additional information that should be requested. Please do not hesitate to contact Russell & Axon at your convenience.

Sincerely yours,

RUSSELL & AXON

William L. Sago, P.E.
Vice President

Gary K. Morris
Project Engineer

GKM:vjd

CER 067274

408 OLIVE STREET • ST. LOUIS, MISSOURI 63102 • 314/231-9693

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SUMMARY

The Village of Sauget, Illinois, Publicly Owned Treatment Works (POTW) currently has an existing industrial user monitoring program. While the program is sufficient to meet past local needs and Federal and State requirements for regulating industrial wastewater, modification will be necessary to fulfill the new Federal pretreatment program requirements.

Since the basic monitoring and organization framework already exists, development of the new program can proceed with relative ease. Implementation of the program, however, will require that industrial users comply with the recommended construction of new sampling points and initiate the federally required self-monitoring and reporting activities. Additionally, as pretreatment standards are promulgated for the Industrial Users (I.U.), the POTW must insure compliance with these standards.

Insuring the compliance of I.U.'s with pretreatment standards requires that the POTW obtain the necessary legal authority to control industrial discharges. The contents of and methodology for obtaining this authority are as recommended in this program submittal.

The Village of Sauget POTW is a physical-chemical treatment plant that was designed for treatment of complex industrial wastewaters. A description of the plant is provided herein. The Village intends to apply for revision of categorical pretreatment standards if and when they are established for any I.U. served by the treatment system. The required methodology for this request is stated in this program along with the POTW reporting requirements for continued authorization for standard revision.

Efficient implementation of the pretreatment program requires a logical administrative structure. All personnel utilized to implement the program must have defined responsibilities. Utilizing the existing monitoring program organizational structure, the recommended pretreatment program management scheme is developed, staff requirements identified and an estimated first year budget proposed. To insure timely implementation of the program, a proposed compliance schedule is contained in this program submittal.

Since the Village has a well established industrial monitoring program, the numbers, types and characteristics of industrial discharges to the POTW were previously identified. To insure, however, that correct up-to-date information was available for each I.U., a waste survey and sampling program were conducted for the industries served by the POTW. This information is contained in this program submittal as a federally required element.

This pretreatment program has been developed to be in compliance with those requirements of a federally approvable program. Its primary purpose is, however, the establishment of a well organized program for the local control of the introduction of industrial wastewaters to the Village of Sauget POTW.

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SECTION I - INTRODUCTION

Purpose and Scope

This Industrial Pretreatment Program has been developed for the Village of Sauget, Illinois. Its purpose is to provide the means for controlling and monitoring the introduction of industrial wastewater to the physical-chemical wastewater treatment facility owned and operated by the Village. The development of the program has been in accordance with the requirements set forth in the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217) and as specified in the Federal Register.(1)

In concert with these requirements, the objectives of this program are: 1) to establish a federally approved industrial waste control program including any necessary modifications to the existing Village of Sauget sewer use regulations; 2) to establish a data base from which the program can be developed; 3) to develop the legal instruments necessary to enforce the control measures; 4) to apply for the authorization to revise industrial discharge limits where eligible (i.e. categorical pretreatment standards) and, 5) to establish a monitoring system to insure compliance with sewer use regulations.

Methodology

The pretreatment program for the Village of Sauget was developed sequentially, as enumerated in the following summarized listing of tasks. Each of the

(1) Federal Register, Vol. 46, No. 18 - Wednesday, January 28, 1981, Parts 125 and 403.

tasks is described in the following sections of this program:

1. Literature Review and Compilation of Existing Pertinent Regulations
2. Familiarization with Publicly Owned Treatment Works (POTW)
3. Industrial Waste Survey
4. Sampling and Analysis Program Evaluation
5. Request for Revision of Pretreatment Standards
6. Evaluation of Sludge Disposal Practices
7. Evaluation of Existing Monitoring Network and Procedures
8. Evaluation of Existing Legal Authority
9. Development of Pretreatment Program Organizational Structure
10. Evaluation of Pretreatment Program Funding Requirements
11. Development of Reporting Procedures and Requirements for Industrial Users and the POTW

The accomplishment of the various tasks to develop the pretreatment program was coordinated as closely as possible with requirements stated in the Federal Register.([1]) Throughout the program, those sections of the Federal Register pertaining to that portion of program development are noted.

([1])Federal Register, Vol. 46, No. 18 - Wednesday, January 28, 1981, Parts 125 and 403.

SECTION II - DESCRIPTION OF VILLAGE OF SAUGET PHYSICAL-CHEMICAL WASTEWATER TREATMENT FACILITY([2])

Village of Sauget

Sauget is a heavily industrialized community with a residential population of approximately 200 inhabitants. The Village also has the following five large industries([3]) which collectively employ about 2,500 people, generally working three shifts a day, seven days a week.

Monsanto Company - Produces a wide variety of industrial chemicals.

Edwin Cooper, Inc. - Primary products include additives for automotive oils and greases.

AMAX Zinc Company - Produces electrolytic zinc, sulfuric acid, and trace elements associated with zinc.

Cerro Copper Company - Primarily recovers copper from scrap copper and converts this to copper tubing and other copper shapes.

Midwest Rubber Company - Processes rubber tires and other rubber articles to produce reclaimed rubber primarily for the automotive industry.

The present wastewater treatment facility at Sauget, Illinois is owned by the Village of Sauget and is operated by a non-profit corporation, the "Sauget Sanitary Development & Research Association". See Figure 1 for Treatment Plant Schematic.

Sauget's treatment facility started operation in 1966 as a primary plant. In February, 1974, ground was broken for new facilities which were completed in 1977. The new facility, in addition to upgrading the facilities for removal of scum and oil, provides for neutralization of acidity, precipitation and removal of heavy metals, and lagooning of stormwater prior to treatment.

([2])Description provided by Steven D. Smith, Treasurer, Sauget Sanitary Development & Research Association, February 1980.

([3])Additional Industries are listed in Section III.

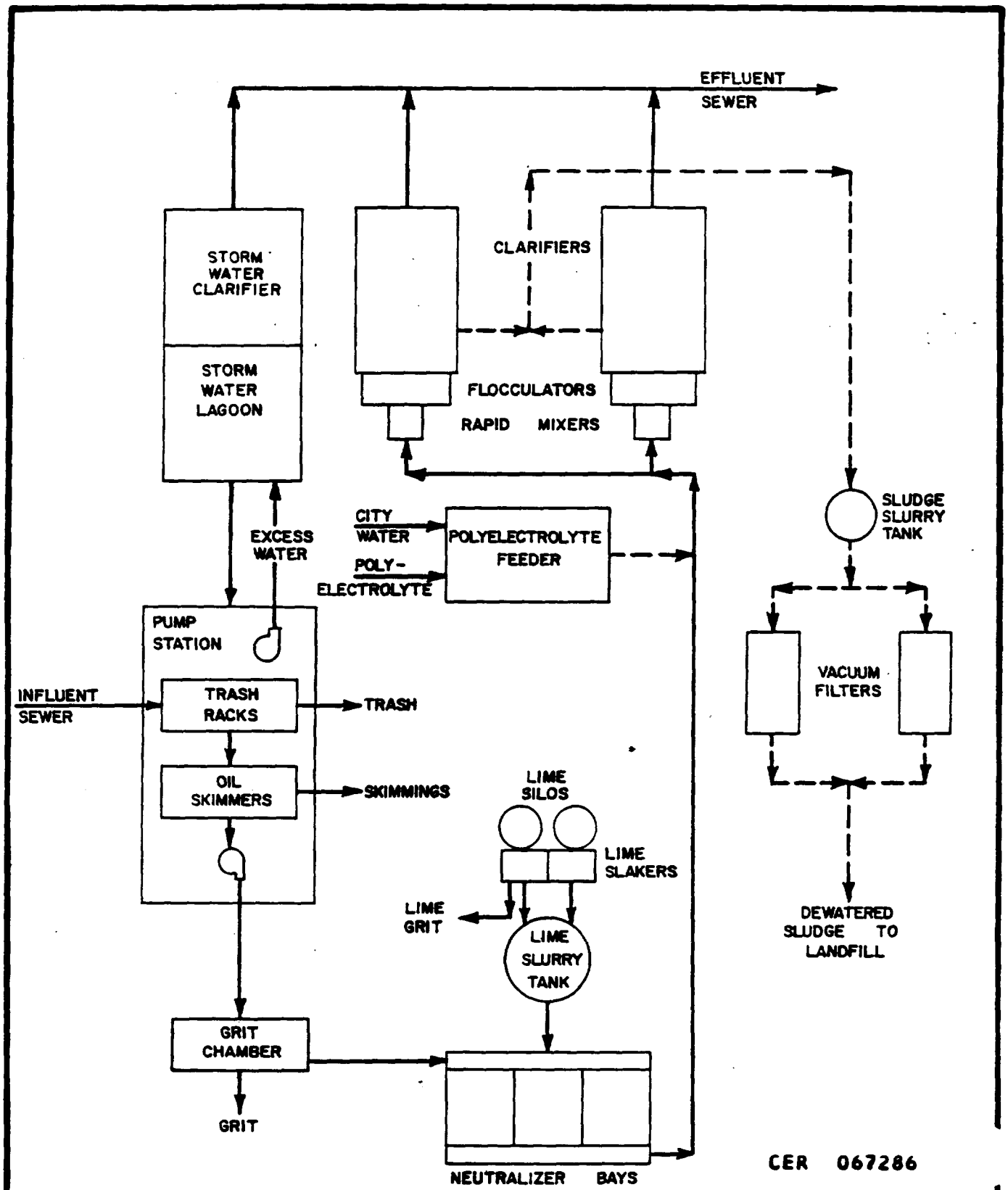

FIGURE 1

VILLAGE OF SAUGET

PHYSICAL - CHEMICAL

SEWAGE TREATMENT PLANT

Influent Water Quantity and Quality

The influent has an average flow of approximately 10.7(*) MGD, and contains various heavy metals and chemicals, some floating scum and oil, some grit primarily from ground water runoff, and sanitary wastes from residents and employees of the five industries.

Influent Water Pumps and Auxiliaries

Three 8,000 GPM acid resistant bronze centrifugal pumps handle the normal influent water and stormwater runoff. Normally one or two pumps will pump to the treating process and the remaining pumps, operating by level control, are used to pump stormwater. The pumps are powered with 100 HP, 600 RPM motors.

Because of the corrosive nature of the influent water, the pump bays and pits are either lined with fiberglass or acid resistant tile. Piping is either 316 stainless steel or fiberglass reinforced polyester. Valves are either 316 stainless steel or neoprene lined steel. Conventional trash screens are used ahead of pumps. Water flow through the treating system is measured with an orifice meter.

Stormwater Lagoons

A stormwater storage lagoon and a stormwater clarifier have been provided to handle excess influent. The storage lagoon has approximately 1,000,000 gallons capacity and is intended to handle the first flush of a storm. The water in this lagoon is returned to the influent pump bay automatically as the influent bay level drops.

(*) Design flow is 14.2 MGD.

The stormwater clarifier has approximately twice the capacity of the storage lagoon and it receives stormwater after the storage lagoon has been filled.

Scum and Oil Removal

This is recognized as a critical part of the operation for three reasons:

a) To meet effluent water standards.

b) To reduce interference with pH measurement and control.

c) To reduce clogging of filter cloths in the final step of the operation.

It is important to remove the maximum amount of oil in the pump bays to avoid emulsifying these substances when passing them through a pump. The plant currently uses 6 Brill Oil Skimmers.

Grit Removal

Grit removal follows pumping. A conventional sloped bottom concrete chamber of Chicago Pump Company design is used. The chamber is fiberglass lined. The cross sectional area of the chamber at the top is approximately 300 square feet, the volume is 3,500 cubic feet, and detention time is 4.7 minutes.

Air to the system for aeration and grit removal is supplied by a positive displacement Roots blower. Three air lift pumps, operating in timed sequence, discharge grit and water into the stilling well of an inclined screw conveyor. The water from the grit chamber overflows into a flume and flows to the lime neutralization step, and the grit is discharged into a dumpster for disposal at a landfill.

Lime Slaking for Neutralization

High calcium quick lime is slaked and diluted to 10 to 15 percent slurry for neutralization. The lime slaking and storage equipment consist of two steel cone bottom silos of 125 ton capacity each; two 8,000#/hr. Wallace & Tiernan lime slakers; a 3,000 gallon pump tank; two circulating pumps; a 100,000 gallon lime slurry storage tank; two lime slurry feed pumps; associated steel pipe and controls. Quick lime is received in hopper trailers and is trucked from St. Genevieve, Missouri. The lime slakers use city water for slaking and plant effluent water for dilution. The slaking rate is generally 2,000-3,000#/hr. Quick lime feed and slaking water addition are closed loop control and dilution water addition is open loop control based upon specific gravity of the slurry.

Neutralization

The neutralization equipment consists of three adjacent agitated concrete chambers through which the water to be treated flows in series. Each chamber has a cross sectional surface area of 730 square feet and is 20 feet deep. The detention time of each chamber is 14.7 minutes. The first chamber is fiberglass lined and the second and third chambers are unprotected. Any two of the three chambers can be used for neutralization with the third chamber being an installed spare.

Electrodes measure the pH of wastewater entering the first chamber and leaving the first, second, and third chambers. Two of the last three electrodes are used for pH control by a closed loop feed back system. Lime slurry for neutralization is drawn from the circulating loop of the 100,000 gallon tank. Instantaneous rates of 25,000# lime/hour can be added to the neutralizers. pH of the final neutralizer is controlled at approximately 8.5.

Polyelectrolyte Solution

A Wallace & Tiernan polyelectrolyte solution machine is used to dissolve polyelectrolyte powder in city water to produce a 0.25 to 0.50 percent solution for addition to the neutralized water. A polyelectrolyte concentration of approximately 0.5 ppm is required to produce a stable floc which will readily settle.

Splitter Box

The flow leaving the neutralization chambers flows to a splitter box where it is divided into two equal parts. Each part then goes through a rapid mix chamber, a flocculation system, and a clarification basin.

Rapid Mix Chamber (Two Units)

The rapid mix chamber consists of two agitated concrete basins where polyelectrolyte solution diluted with city water is mixed with neutralized water. The basin has approximately 250 cubic feet capacity and 0.67 minute detention time/unit.

Flocculators (Four Units)

Two flocculators in parallel receive the flow from one rapid mix chamber. The flow enters at one side near the bottom at the head end of the flocculator. Each flocculator is 18 feet wide by 36 feet long by 10 feet deep and provides a detention time of 35 min./unit. A low level of agitation is provided in each flocculator with four, three, and two paddle mixers in series and separated by partial baffles. Each mixer has adjustable speed drive.

A slow moving continuous chain and paddle type rake moves the sludge to a collection hopper at the discharge end of the flocculator and entrance end of the clarifier. This same rake moves any floating oil or scum on the surface of the water to a collection trough at the entrance end of the flocculator.

Clarifiers (Two Units)

Two flocculators flow into one clarifier. Each clarifier is a concrete basin 72.5 feet wide by 166.5 feet long with a liquid depth of 10 feet. This provides a detention time at 8 MGD of 5.4 hours/unit.

Each clarifier has at its entrance end three sludge collection hoppers in the form of inverted pyramids. Each hopper has a capacity of approximately 1,840 ft^3. A continuously operating traveling bridge type sludge rake drags the sludge forward to the three hoppers and the floating scum and oil to a collection trough. The collection trough drains to a pit.

Water overflowing the clarifier is collected in a series of serpentine weirs, flows to a collection pit and from there to the north bay of the pump house.

Effluent Water Use and Disposal

Two pumps supply effluent water for use in dilution of the lime slurry after the slaking step. The effluent water then gravity flows to the Mississippi River or when the River is above Stage 15 is pumped by either the Sauget or Sanitary District Pump Stations'.

Sludge Dewatering

By use of horizontal centrifugal pumps, sludge is transferred from the six sludge collection pits of the clarifiers to a sludge holding tank in a near-by sludge filter building.

The filtration equipment consists of three 10 foot diameter by 16 foot long continuous cloth belt rotary vacuum filters, manufactured by Envirex, Inc. The auxiliaries for each filter consist of a Nash vacuum pump, vacuum receiver and self-priming filtrate pump. The filters and auxiliaries are conventional units without special or unusual features of any type. Lime is added to the sludge slurry for use as a filter aid. The filter cake discharges onto a belt which discharges the cake into a dumpster box. The filter cake is disposed of at a landfill. The filtrate flows back to the process.

Work Force and Routine Operations

The work force consists of a manager, engineer, foreman, assistant foremen, secretary, chemist, and hourly operational/maintenance personnel. The plant is manned 24 hours/day.

Operating procedures have been written which outline the detailed methods for operating the various items of equipment and sections of the plant.

Maintenance practice consists of scheduled lubrication, inspection, and repair or replacement. In-plant repairs are limited to reasonably small work. Contract preventive maintenance is used for specialized items such as instrumentation, electrical and lime slaking units.

SECTION III - FORMULATION OF DATA BASE

Industrial Waste Survey

An inventory of industrial/commercial users in the Village of Sauget Treatment Plant's service area was accomplished. Treatment plant records supplemented by municipal and regional directories were utilized to compile the listing of industrial users. The following is a listing of users with a brief description of the industry. Appendix A contains the Industrial Waste Survey Questionaires completed by each industrial user.

INDUSTRY:	AMAX ZINC COMPANY, INC. Route 3 and Monsanto Avenue Sauget, Illinois P. O. Box 2347 (Mailing) East St. Louis, Illinois 62202	
SIC:([5])	3333	
Raw Materials:	Zinc Concentrates	150,000 T/yr
Products:	Slab Zinc	80,000 T/yr
	Cadmium	440 T/yr
	Sulfuric Acid	117,000 T/yr
Discharge Schematic:	Figure 2.	

([5]) Standard Industrial Classification.

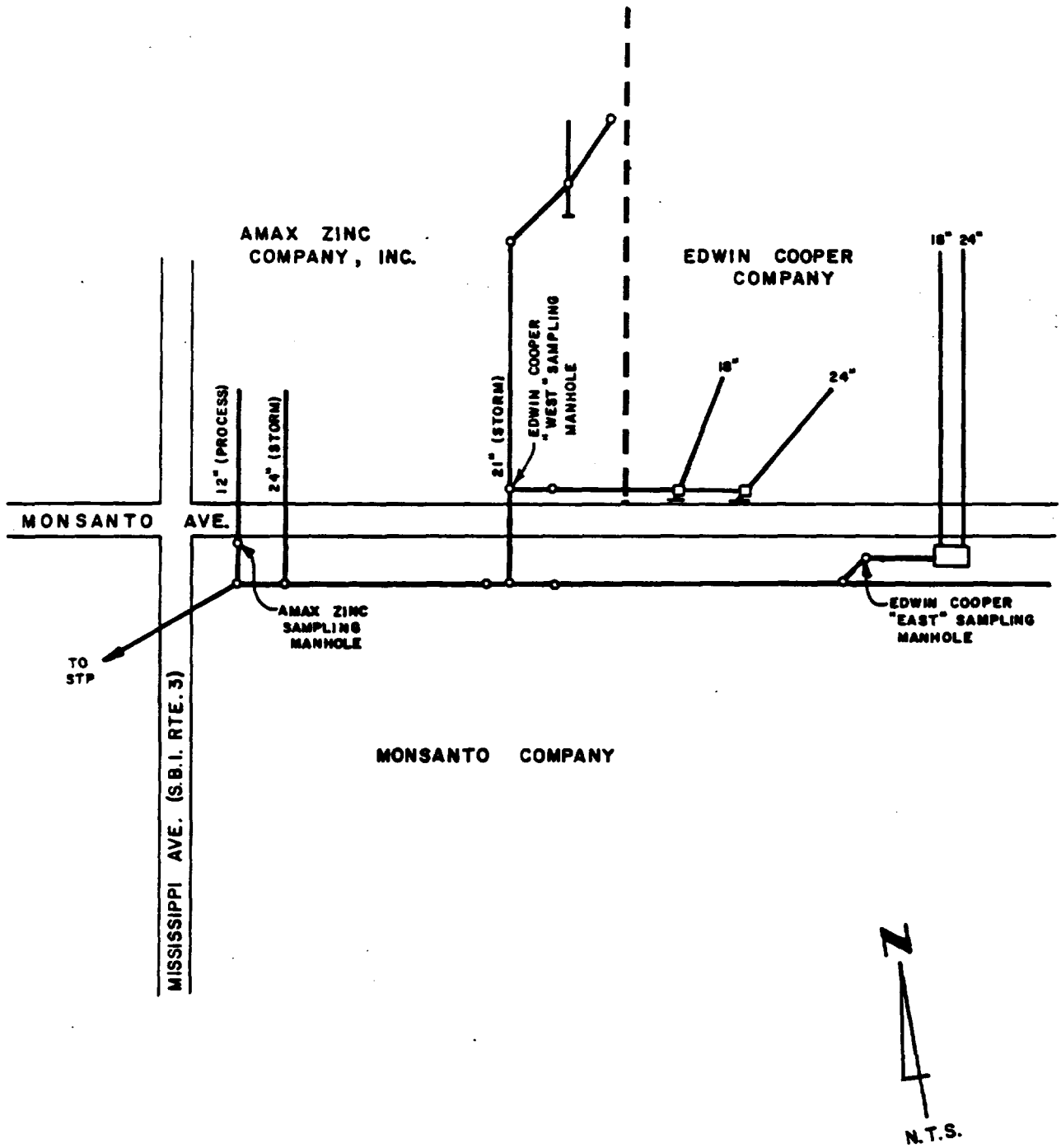

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FIGURE 2

AMAX ZINC CO., INC. & EDWIN COOPER CO. DISCHARGE SCHEMATIC

INDUSTRY	CERRO COPPER PRODUCTS CO. Route 3 and A. & S. Railroad Sauget, Illinois P. O. Box 681 (Mailing) East St. Louis, Illinois 62202	
SIC:	3331, 3351	
Raw Materials:	Scrap Copper	55,000 T/yr
	Electrolytic Copper	8,500 T/yr
	Semi-Refined Copper	26,500 T/yr
Products:	Electrolytic Copper	37,500 T/yr
	Copper Tubular Products	67,500 T/yr
Discharge Schematic:	Figure 3.	

INDUSTRY:	CLAYTON CHEMICAL CO. #1 Mobile Avenue Sauget, Illinois 62201	
SIC:	2833	
Raw Materials:	Industrial Waste Solvent	1,000,000 Gal/yr
Products:	Recycled Solvents	700,000 Gal/yr
Discharge Schematic:	Not Available	

INDUSTRY:	EDWIN COOPER, INC. Monsanto Avenue Sauget, Illinois 62201	
SIC:	2899	
Raw Materials:	Sulfuric Acid	
	Caustic Alcohols total raw materials	144,331 T/yr
	Solvents Olefins	
Products:	Miscellaneous Oil Additives	109,900 T/yr
Discharge Schematic:	Figure 2.	

INDUSTRY:	MIDWEST RUBBER RECLAIMING Route 3 Sauget, Illinois 62201
SIC:	3031
Raw Materials:	Tires, Tire Peelings, Inner Tubes (Butyl Rubber), Latex Rubber
Products:	Butyl Rubber, Latex Rubber
Discharge Schematic:	Figure 3.

INDUSTRY:	MOBIL OIL CO. 2000 S. 20th (Mailing) East St. Louis, Illinois 62206 19th Street and Monsanto Drive Sauget, Illinois 62201
SIC:	5171
Raw Materials:	Distributor Only
Products:	Distributor Only
Discharge Schematic:	Figure 4.

INDUSTRY:	MONSANTO COMPANY Sauget, Illinois 62201
SIC:	2819, 2812, 2865, 2869
Raw Materials:	Organic and Inorganic Chemicals
Products:	Organic and Inorganic Chemicals
Discharge Schematic:	Figure 5.

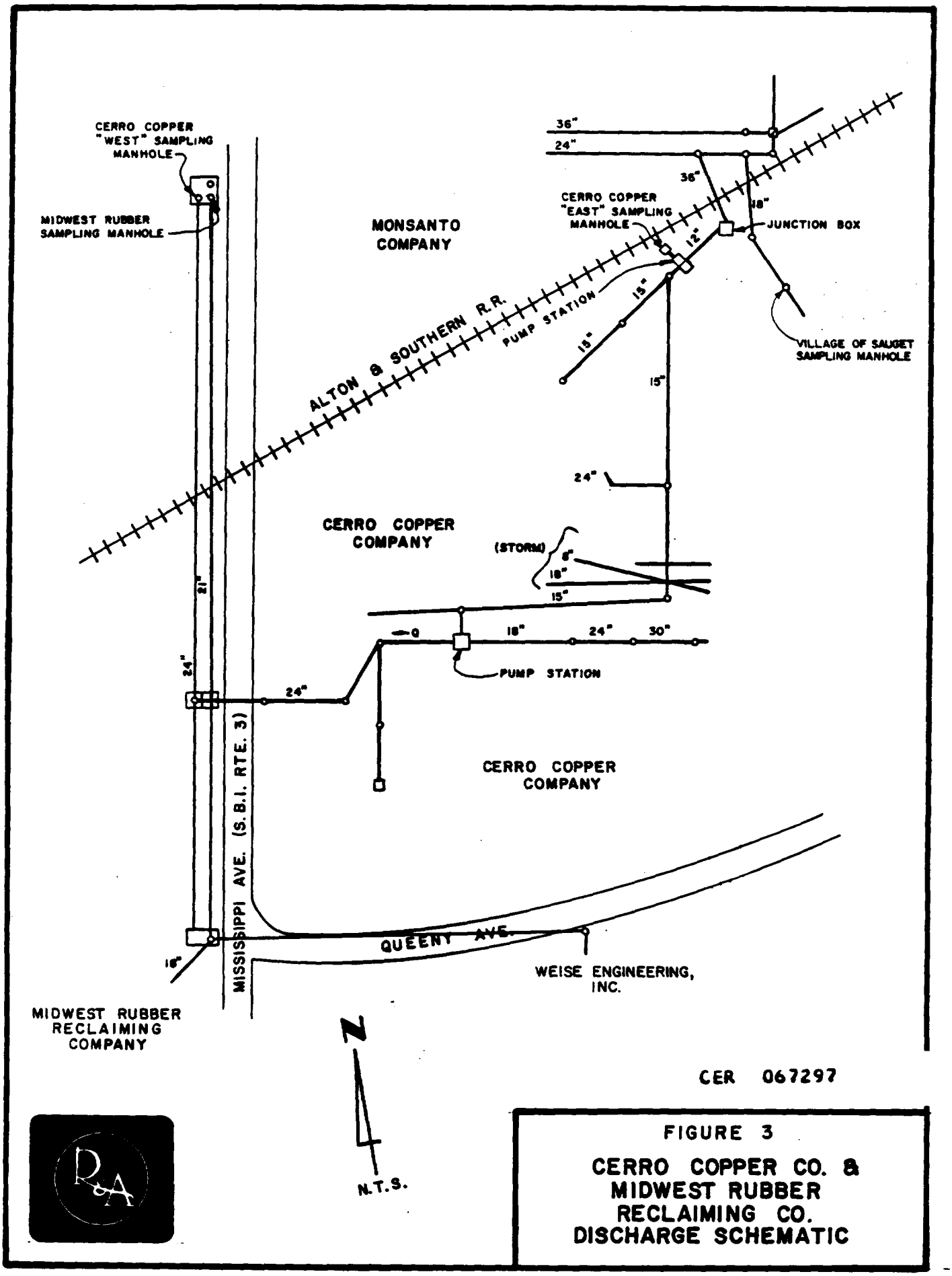

FIGURE 3

CERRO COPPER CO. & MIDWEST RUBBER RECLAIMING CO. DISCHARGE SCHEMATIC

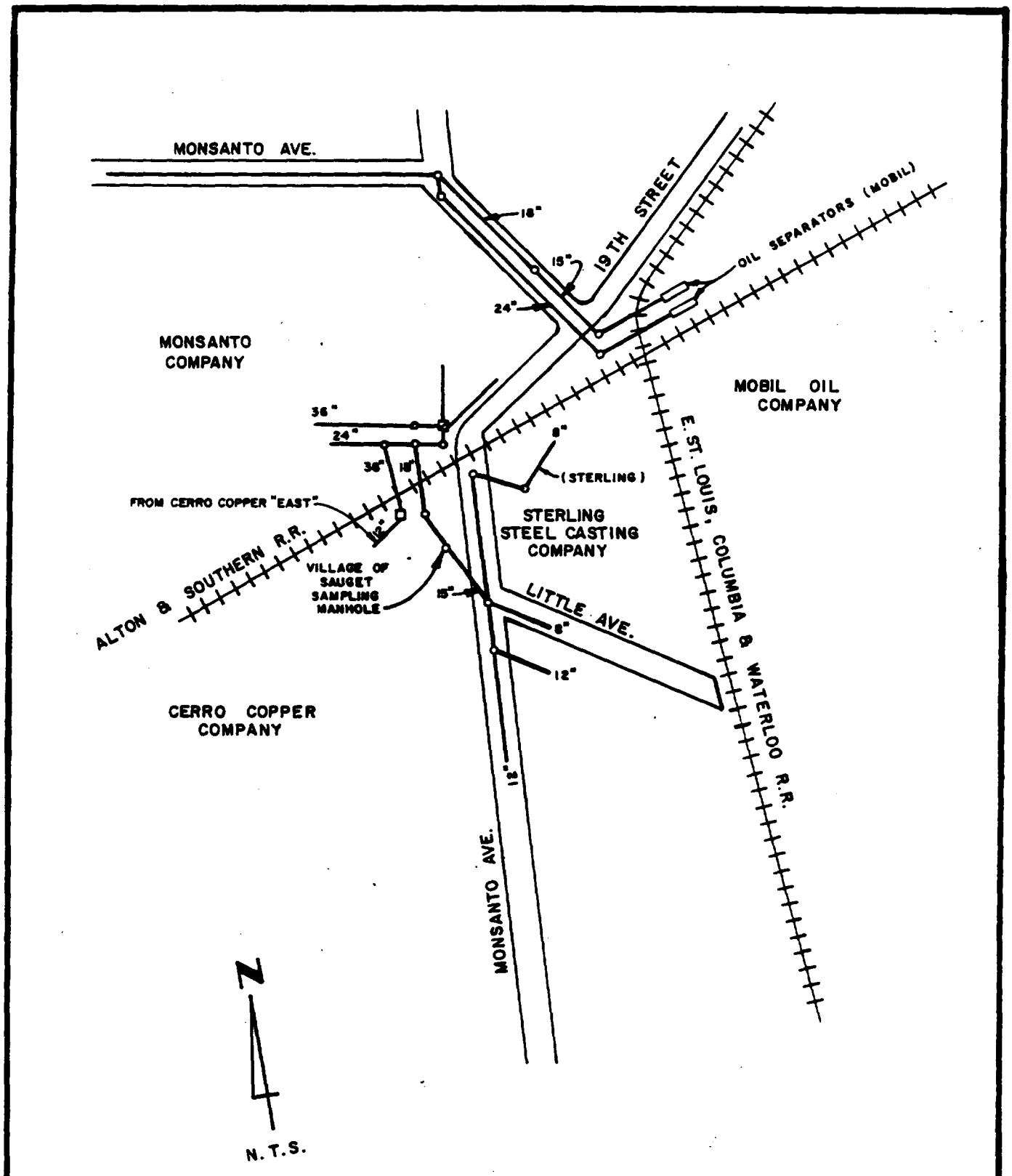

FIGURE 4

VILLAGE OF SAUGET SAMPLING MANHOLE

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INDUSTRY: ROGERS CARTAGE CO.
2900 Monsanto Avenue
Sauget, Illinois 62201

SIC: None

Raw Materials: Various Miscellaneous Materials from Cleaning Tractor-Trailers (Tankers), (see Appendix A for listing)

Products: Not Applicable

Discharge Schematic: Not Available

INDUSTRY: STERLING STEEL CO.
2300 Monsanto Avenue
Sauget, Illinois 62201

SIC: 3325

Raw Materials:

Steel Scrap	3,500 T/yr
Ferrosilcon	50 T/yr
Ferromanganese	65 T/yr
Alloying Elements	15 T/yr

Products: Carbon and Alloy Steel Castings 3,600 T/yr

Discharge Schematic: Figure 4.

INDUSTRY: WEISE PLANNING & ENGINEERING, INC.
1200 Queeny Avenue
Sauget, Illinois 62206

SIC: None

Raw Materials: Grease from Steam Cleaning

Products: None

Discharge Schematic: Not Available

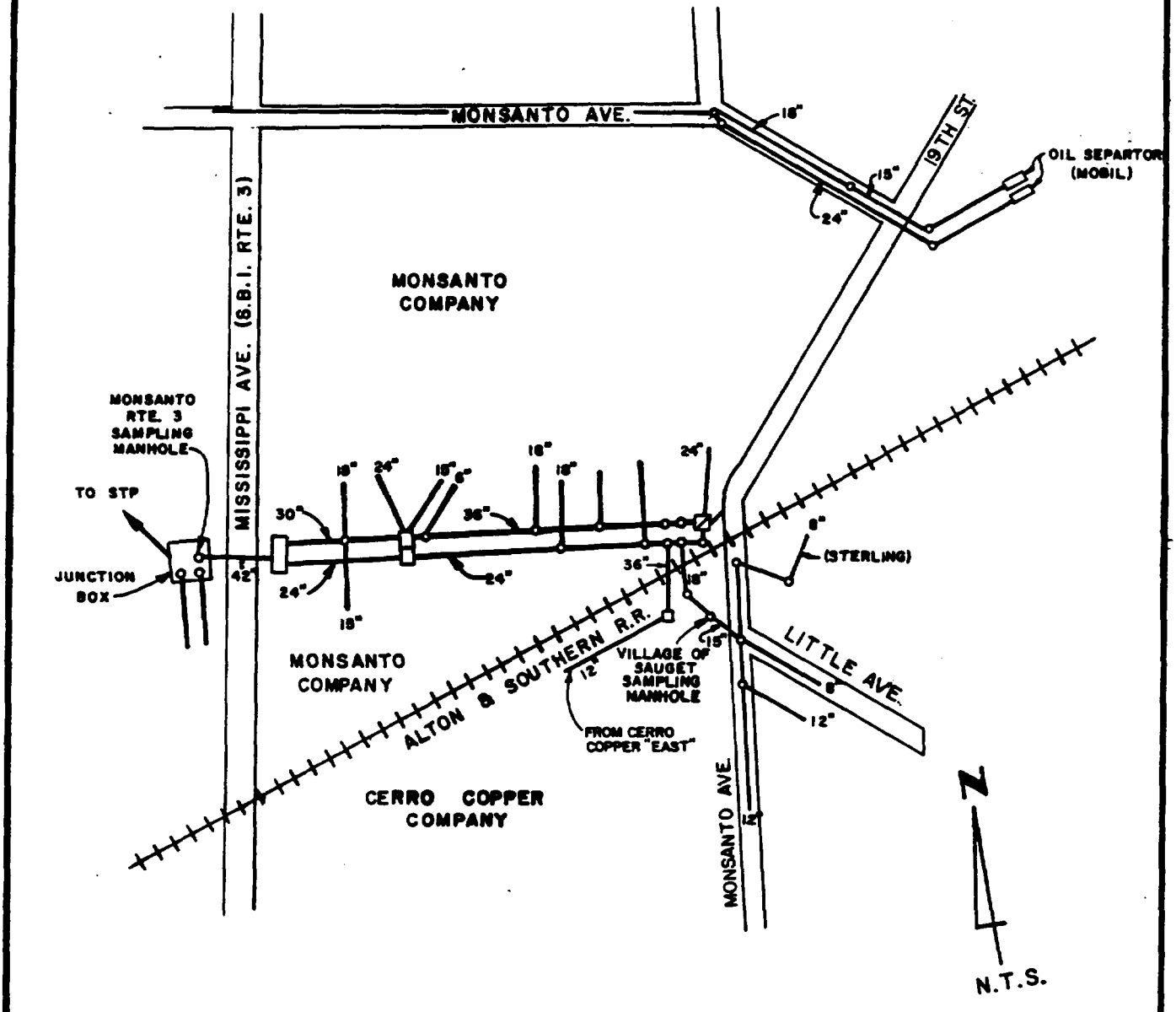

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FIGURE 5

MONSANTO COMPANY
DISCHARGE SCHEMATIC

Characterization of Industrial Discharge - Sampling Analysis

An established sampling program exists for the industries located in the Village of Sauget, Illinois. The program is operated by Village of Sauget treatment plant personnel and utilizes permanently installed sampling manholes. Flow measurement at the sampling sites is accomplished by ultrasonic type flow meters and samples are collected by peristaltic type composite samplers. The existing sampling equipment was utilized for collecting samples to characterize the industrial discharges for the Pretreatment Program development with the exception of Clayton Chemical Co. A sampler and flowmeter were installed at the Clayton sampling site due to failure of the existing equipment.

All samples were collected over a 24-48 hour period with a sampling frequency of one hour. The individual aliquots were composited, preserved and shipped to the laboratory for analysis. Typical parameters analyzed are shown in Table 1. This list was modified as necessary to meet the particular requirements of an industrial discharge. The results of the sampling program are given in Tables 2 through 8.

TABLE 1

INDUSTRIAL SAMPLING PROGRAM PARAMETER LIST

Bottle(s) Labeled	Preservative[6] Used	Used for these Analysis	
A	Nitric Acid (5 ml/l)	Arsenic	Nickel
		Cadmium	Zinc
		Copper	Silver
		Iron, Total	Barium
		Lead	Selenium
		Mercury	Manganese
		Chromium, +3, +6	
B	NONE	Acidity	Fluoride
		Alkalinity	pH
		Chlorides	Phosphorus
		Iron, Dissolved	Orthophosphorus
		TOC	Solids (TS,TSS)
		BOD	Sulfates
		COD	
C	Sulfuric Acid 2 ml/l	Oil & Grease	NH_3-N
		Nitrate-Nitrogen	TKN
D	Sodium Hydroxide to pH > 12	Cyanide	
E	Phosphoric Acid to pH < 4, 1 g/l Copper Sulfate	Phenols	

([6])Standard Methods for the Examination of Water and Wastewater. 13th Edition, 1971, A.P.H.A., A.W.W.A., W.P.C.F.

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TABLE 2

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: AMAX ZINC

SAMPLE TYPE: 48 hr composite

SAMPLE DATE: 10/4/79

FLOW: 0.115 MGD

PARAMETER	CONCENTRATION		MASS LOAD (#/day)
Acidity	43	mg/l	41
Alkalinity	20	mg/l	19
Chloride	390	mg/l	374
Cyanide	< 0.01	mg/l	< 0.01
Fluoride	3.7	mg/l	4
Ammonia	2.7	mg/l	3
TKN	5.9	mg/l	6
Nitrate	0.28	mg/l	0.27
Oil & Grease	.12	mg/l	12
pH	4.3	-	-
Phenol	25	µg/l	0.02
Phosphorus (Total)	0.46	mg/l	0.44
Phosphorus (Ortho)	0.31	mg/l	0.30
Solids (Total)	6,000	mg/l	5155
Sulfate	3,300	mg/l	3165
Arsenic	9.4	µg/l	0.01
Barium	230	µg/l	0.22
Cadmium	190	µg/l	0.18
Chromium (Total)	29	µg/l	0.03
Chromium (Hex)	< 20	µg/l	< 0.02
Chromium (Tri)	≤ 9	µg/l	≤ 0.01
Copper	66	µg/l	0.06
Iron	500	µg/l	0.48
Lead	220	µg/l	0.21
Manganese	1,200	µg/l	1
Mercury	0.69	µg/l	0.007
Selenium	64	µg/l	0.06
Silver	17	µg/l	0.02
Zinc	13,000	µg/l	13
Iron (Diss)	240	µg/l	0.23
Nickel	88	µg/l	0.08

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TABLE 2
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: AMAX ZINC

SAMPLE TYPE: 24 hr composite

SAMPLE DATE: 10/5/79

FLOW: 0.400 MGD

PARAMETER	CONCENTRATION		MASS LOAD (#/day)
Acidity	21	mg/l	70
Alkalinity	190	mg/l	634
Chloride	140	mg/l	467
Cyanide	< 0.01	mg/l	< 0.03
Fluoride	1.4	mg/l	5
Ammonia	1.3	mg/l	4
TKN	7.3	mg/l	24
Nitrate	3.2	mg/l	11
Oil & Grease	16	mg/l	53
pH	7.7	-	-
Phenol	10	µg/l	0.03
Phosphorus (Total)	0.50	mg/l	2
Phosphorus (Ortho)	0.06	mg/l	0.20
Solids (Total)	3,100	mg/l	10,342
Sulfate	1,700	mg/l	5,671
Arsenic	61	µg/l	0.20
Barium	210	µg/l	0.70
Cadmium	110	µg/l	0.37
Chromium (Total)	13	µg/l	0.04
Chromium (Hex)	< 20	µg/l	< 0.07
Chromium (Tri)	≤ 13	µg/l	≤ 0.04
Copper	130	µg/l	0.43
Iron	500	µg/l	2
Lead	130	µg/l	0.43
Manganese	860	µg/l	2.87
Mercury	0.40	µg/l	0.01
Selenium	29	µg/l	0.10
Silver	13	µg/l	0.40
Zinc	6,600	µg/l	22
Iron (Diss)	51	µg/l	0.17
Nickel	59	µg/l	0.20

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TABLE 3

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: CERRO COPPER SAMPLE TYPE: 24 hr. composite

SAMPLE DATE: 8/31/79

FLOW: 0.633 MGD WEST + 0.192 MGD EAST = 0.825 MGD

PARAMETER	CONCENTRATION EAST		WEST	MASS LOAD (#/day) TOTAL
Acidity	1000	mg/l	26	1738
Alkalinity		mg/l	220	1161
Chloride	72	mg/l	56	411
Cyanide	<0.01	mg/l	<.01	< .07
Fluoride	0.18	mg/l	0.95	5.29
Ammonia	3.6	mg/l	0.70	10
TKN	5.3	mg/l	3.30	25
Nitrate	44	mg/l	1.40	77
Oil & Grease	130	mg/l	33	382
pH	2.9	-	7.7	—
Phenol	100	ug/l	290	8
Phosphorus (Total)	1.9	mg/l	0.63	6
Phorphorus (Ortho)	0.75	mg/l	0.06	2
Solids (Total)	4700	mg/l	1300	14389
Sulfate	2400	mg/l	400	5955
Arsenic	210	ug/l	14	.41
Barium	82	ug/l	290	2
Cadmium	350	ug/l	150	1
Chromium (Total)	240	ug/l	92	.87
Chromium (Hex)	100	ug/l	40	.37
Chromium (Tri)	140	ug/l	52	.49
Copper	3900	ug/l	7600	46
Iron	1000000	ug/l	27000	1744
Lead	110	ug/l	1000	5
Manganese	4900	ug/l	1900	18
Mercury	<0.2	ug/l	<0.2	< .0013
Selenium	<0.4	ug/l	3.30	.0176
Silver	8.2	ug/l	12.0	.073
Zinc	1000	ug/l	3500	20
Iron (Diss)	1900	ug/l	140	4
Nickel	58000	ug/l	14000	167

TABLE 3
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: CERRO COPPER SAMPLE TYPE: 24 hr. composite

SAMPLE DATE: 10/2/79

FLOW: 0.221 MGD EAST + 0.743 MGD WEST = 0.964 MGD

PARAMETER	CONCENTRATION EAST	WEST	MASS LOAD (#/day) TOTAL
Acidity	520 mg/l	57	1311
Alkalinity	3.0 mg/l	240	1493
Chloride	42 mg/l	72	523
Cyanide	<0.01 mg/l	0.01	< .08
Fluoride	0.83 mg/l	1.2	9
Ammonia	2.1 mg/l	1.4	13
TKN	2.9 mg/l	3.7	28
Nitrate	0.90 mg/l	1.4	11
Oil & Grease	140 mg/l	16	357
pH	4.7 -	7.5	55
Phenol	100 ug/l	130	.99
Phosphorus (Total)	0.33 mg/l	1.6	11
Phorphorus (Ortho)	0.03 mg/l	0.03	.25
Solids (Total)	1500 mg/l	1600	12679
Sulfate	750 mg/l	550	4790
Arsenic	14 ug/l	26	.19
Barium	190 ug/l	660	4
Cadmium	72 ug/l	840	5
Chromium (Total)	57 ug/l	64	.51
Chromium (Hex)	20 ug/l	20	.16
Chromium (Tri)	37 ug/l	44	.34
Copper	6900 ug/l	19000	121
Iron	290000 ug/l	40000	783
Lead	140 ug/l	2500	15
Manganese	1600 ug/l	2400	18
Mercury	<0.2 ug/l	1.2	< .007
Selenium	1.4 ug/l	4.0	.027
Silver	5.8 ug/l	13	.09
Zinc	5800 ug/l	18000	123
Iron (Diss)	200000 ug/l	110	370
Nickel	12000 ug/l	23000	165

TABLE 4

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: CLAYTON CHEMICAL CO. SAMPLE TYPE: 24 hr Composite

SAMPLE DATE: 10/3/79

FLOW: 0.03 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	35 mg/l	9
Alkalinity	450 mg/l	113
Chloride	310 mg/l	78
Cyanide	< 0.01 mg/l	< 0.003
Fluoride	0.76 mg/l	0.19
Ammonia	0.84 mg/l	0.21
TKN	2.0 mg/l	0.50
Nitrate	0.25 mg/l	0.06
Oil & Grease	5 mg/l	1.25
pH	7.5 -	-
Phenol	310 µg/l	0.08
Phosphorus (Total)	0.33 mg/l	0.08
Phosphorus (Ortho)	0.19 mg/l	0.05
Solids (Total)	1,400 mg/l	350
Sulfate	40 mg/l	10
Arsenic	3.7 µg/l	0.0009
Barium	720 µg/l	0.18
Cadmium	9.8 µg/l	0.002
Chromium (Total)	27 µg/l	0.007
Chromium (Hex)	20 µg/l	0.005
Chromium (Tri)	7 µg/l	0.002
Copper	21 µg/l	0.005
Iron	10,000 µg/l	2.5
Lead	66 µg/l	0.02
Manganese	2,100 µg/l	0.53
Mercury	0.43 µg/l	0.0001
Selenium	3.4 µg/l	0.0009
Silver	6.0 µg/l	0.002
Zinc	52 µg/l	0.013
Iron (Diss)	190 µg/l	0.05
Nickel	48 µg/l	0.012

TABLE 4
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: CLAYTON CHEMICAL CO. SAMPLE TYPE: 24 hr. Composite

SAMPLE DATE: 10/4/79

FLOW: 0.03 MGD

PARAMETER	CONCENTRATION		MASS LOAD (#/day)
Acidity	64	mg/l	16
Alkalinity	640	mg/l	160
Chloride	290	mg/l	73
Cyanide	< 0.01	mg/l	< 0.003
Fluoride	0.27	mg/l	0.07
Ammonia	0.25	mg/l	0.06
TKN	1.6	mg/l	0.40
Nitrate	0.16	mg/l	0.04
Oil & Grease	9.2	mg/l	2.30
pH	-		-
Phenol	230	µg/l	0.06
Phosphorus (Total)	0.54	mg/l	0.14
Phosphorus (Ortho)	0.19	mg/l	0.05
Solids (Total)	1,600	mg/l	400
Sulfate	36	mg/l	9
Arsenic	6.5	µg/l	0.002
Barium	1,100	µg/l	0.28
Cadmium	8.8	µg/l	0.002
Chromium (Total)	16	µg/l	0.004
Chromium (Hex)	< 20	µg/l	< 0.005
Chromium (Tri)	≤ 16	µg/l	≤ 0.004
Copper	20	µg/l	0.005
Iron	26,000	µg/l	6
Lead	61	µg/l	0.02
Manganese	2,700	µg/l	0.68
Mercury	< 0.2	µg/l	< 0.00005
Selenium	1.8	µg/l	0.0004
Silver	5.0	µg/l	0.001
Zinc	61	µg/l	0.02
Iron (Diss)	140	µg/l	0.04
Nickel	39	µg/l	0.009

CER 067308

TABLE 5

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: EDWIN COOPER SAMPLE TYPE: 48 hr. composite

SAMPLE DATE: 10/3/79

FLOW: 0.518 MGD EAST + 0.229 MGD WEST = .747 MGD

PARAMETER	CONCENTRATION EAST	WEST	MASS LOAD (#/day) TOTAL
Acidity	7.8 mg/l	2500	4809
Alkalinity	290 mg/l	0	1253
Chloride	56 mg/l	130	490
Cyanide	<0.01 mg/l	<0.01	< .45
Fluoride	0.68 mg/l	0.30	4
Ammonia	0.14 mg/l	1.5	4
TKN	1.7 mg/l	4.4	15
Nitrate	1.4 mg/l	1.4	9
Oil & Grease	16 mg/l	330	699
pH	7.6 -	1.8	36
Phenol	10 ug/l	1700	3.04
Phosphorus (Total)	3.3 mg/l	3.3	7.7
Phorphorus (Ortho)	.18 mg/l	2.3	5.18
Solids (Total)	510 mg/l	4200	10225
Sulfate	130 mg/l	3000	6292
Arsenic	3.1 ug/l	14	.043
Barium	150 ug/l	1200	3
Cadmium	9.5 ug/l	32	.10
Chromium (Total)	38 ug/l	3500	6.86
Chromium (Hex)	20 ug/l	80	.24
Chromium (Tri)	18 ug/l	3400	6.58
Copper	28 ug/l	110	.33
Iron	1500 ug/l	6200	18.5
Lead	62 ug/l	710	1.67
Manganese	220 ug/l	250	1.43
Mercury	<0.2 ug/l	0.69	<.0022
Selenium	1.8 ug/l	1.6	.011
Silver	3.0 ug/l	6.8	.025
Zinc	700 ug/l	2300	7
Iron (Diss)	92 ug/l	5300	10
Nickel	18 ug/l	82	.24

TABLE 5
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: EDWIN COOPER SAMPLE TYPE: 24 hr. composite

SAMPLE DATE: 10/4/79

FLOW: 0.518 MGD EAST + 0.229 MGD WEST = 0.747 MGD

PARAMETER	CONCENTRATION EAST	WEST	MASS LOAD (#/day) TOTAL
Acidity	23 mg/l	3200	6211
Alkalinity	270 mg/l	0	1116
Chloride	160 mg/l	480	1608
Cyanide	< 0.01 mg/l	<0.01	< 0.62
Fluoride	0.49 mg/l	<0.01	< 2
Ammonia	0.62 mg/l	3.7	10
TKN	2.2 mg/l	4.4	18
Nitrate	1.5 mg/l	1.8	10
Oil & Grease	10 mg/l	160	349
pH	7.4 -	1.8	-
Phenol	10 ug/l	1500	3
Phosphorus (Total)	0.37 mg/l	4.7	11
Phorphorus (Ortho)	0.13 mg/l	3.0	6
Solids (Total)	770 mg/l	2900	8865
Sulfate	170 mg/l	2100	4745
Arsenic	1.9 ug/l	29	.063
Barium	140 ug/l	990	2
Cadmium	9.1 ug/l	20	.078
Chromium (Total)	21 ug/l	1300	3
Chromium (Hex)	20 ug/l	140	.166
Chromium (Tri)	1.0 ug/l	1260	2
Copper	24 ug/l	74	.241
Iron	1400 ug/l	4800	15
Lead	49 ug/l	440	1
Manganese	210 ug/l	130	1
Mercury	0.46 ug/l	<0.2	< .0024
Selenium	1.8 ug/l	4	.016
Silver	4 ug/l	6	.031
Zinc	380 ug/l	2300	6
Iron (Diss)	130 ug/l	3900	8
Nickel	22 ug/l	62	.208

CER 067310

TABLE 6

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: MIDWEST RUBBER INC. SAMPLING TYPE: 48 hr. composite

SAMPLE DATE: 9/10/79

FLOW: 0.210 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	12 mg/l	21
Alkalinity	240 mg/l	420
Chloride	56 mg/l	98
Cyanide	< 0.01 mg/l	< .02
Fluoride	0.84 mg/l	1.5
Ammonia	0.56 mg/l	1
TKN	3.9 mg/l	7
Nitrate	3.0 mg/l	5
Oil & Grease	41 mg/l	72
pH	7.8	-
Phenol	300 µg/l	.5
Phosphorus(Total)	0.94 mg/l	1.6
Phosphorus(Ortho)	0.37 mg/l	.6
Solids (Total)	700 mg/l	1226
Sulfate	150 mg/l	263
Arsenic	36 µg/l	.06
Barium	74 µg/l	.13
Cadmium	120 µg/l	.21
Chromium (Total)	1300 µg/l	2
Chromium (Hex)	80 µg/l	.14
Chromium (Tri)	1200 µg/l	2
Copper	2100 µg/l	4
Iron	9200 µg/l	16
Lead	510 µg/l	.89
Manganese	570 µg/l	1
Mercury	< 0.2 µg/l	< .004
Selenium	5.6 µg/l	.01
Silver	6.3 µg/l	.01
Zinc	1900 µg/l	3
Iron (Diss)	50 µg/l	.09
Nickel	3700 µg/l	6.5

TABLE 6
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: MIDWEST RUBBER INC. SAMPLE TYPE: 48 Hr. Composite

SAMPLE DATE: 10/2/79

FLOW: 0.209 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	0 mg/l	0
Alkalinity	1,500 mg/l	2,615
Chloride	31 mg/l	54
Cyanide	< 0.01 mg/l	< .017
Fluoride	0.62 mg/l	1
Ammonia	2.1 mg/l	4
TKN	3.4 mg/l	6
Nitrate	1.8 mg/l	3
Oil & Grease	300 mg/l	523
pH	12.0 -	-
Phenol	14,000 µg/l	24
Phosphorus (Total)	1.3 mg/l	2
Phosphorus (Ortho)	0.09 mg/l	.16
Solids (Total)	3,700 mg/l	6449
Sulfate	160 mg/l	279
Arsenic	4.5 µg/l	.008
Barium	520 µg/l	.91
Cadmium	10 µg/l	.017
Chromium (Total)	1,400 µg/l	2
Chromium (Hex)	40 µg/l	.07
Chromium (Tri)	1,360 µg/l	2
Copper	100 µg/l	.17
Iron	3,700 µg/l	6
Lead	320 µg/l	.56
Manganese	200 µg/l	.35
Mercury	< 0.2 µg/l	< .0003
Selenium	5.1 µg/l	.009
Silver	10 µg/l	.017
Zinc	6,900 µg/l	12
Iron (Diss)	64 µg/l	.11
Nickel	63 µg/l	.11

CER 067312

TABLE 7

MASS LOAD CALCULATIONS

INDUSTRY: MONSANTO COMPANY SAMPLE TYPE: 24 hr. Composite

SAMPLE DATE: 8/31/79

FLOW: 7.6882 MGD RT 3 Manhole
.2920 MGD Cerro East + Village of Sauget
7.3762 MGD Total

PARAMETER	MASS LOAD (#/day)			
	RT 3	- (CERRO EAST	+ VILLAGE) =	MONSANTO
Acidity	28778	1601	8.34	27169
Alkalinity	-	-	-	-
Chloride	115112	115	25	114972
Cyanide	< .64	0.02	< .008	< 0.61
Fluoride	16	0.29	10	5.71
Ammonia	19185	6	1	19178
TKN	23661	8	7	23646
Nitrate	1534	70	2	1462
Oil & Grease	2174	208	70	1896
pH	-	-	-	-
Phenol	959	0.16	.12	958.72
Phosphorus (Total)	249	3	4	242
Phosphorus (Ortho)	70	1	.32	67
Solids (Total)	377311	7526	1668	368117
Sulfate	95926	3843	58	92025
Arsenic	.70	0.34	.03	0.33
Barium	5	0.13	.21	4.66
Cadmium	1	0.56	.05	0.44
Chromium (Total)	15	0.38	.03	14.59
Chromium (Hex)	< .64	0.16	< .008	≤ 0.47
Chromium (Tri)	≤ 15	0.22	≤ .03	≤14.75
Copper	249	6	.06	243
Iron	1534	1601	6	0
Lead	3	0.18	.08	2.74
Manganese	10	8	.31	1.69
Mercury	0.2	0.0003	.0002	0.199
Selenium	4	0.0006	.005	3.99
Silver	0.35	0.013	.002	0.32
Zinc	76	2	.83	73
Iron (Diss)	1342	3	1	1338
Nickel	108	93	.05	15

CER 067313

TABLE 7
(continued)

MASS LOAD CALCULATIONS

INDUSTRY: MONSANTO COMPANY SAMPLE TYPE: 24 hr.Composite

SAMPLE DATE: 10/2/79

FLOW: 6.9555 MGD RT 3 Manhole
.3208 MGD Cerro Copper East + Village of Sauget
6.6347 MGD Total

PARAMETER	MASS LOAD (#/day)			
	RT 3 -	(CERRO EAST +	VILLAGE) =	MONSANTO
Acidity	139,231	958	34	138239
Alkalinity	0	6	208	0
Chloride	380	77	25	278
Cyanide	.014	.02	.008	0
Fluoride	0.47	1.53	1	0
Ammonia	6381	3.87	3	6374
TKN	11022	5.35	19	10998
Nitrate	17	1.66	.15	15
Oil & Grease	3886	258	383	3245
pH	-	-	-	-
Phenol	638	.18	1	637
Phosphorus (Total)	1218	.61	7	1210
Phosphorus (Ortho)	272	.056	3	269
Solids (Total)	516316	2765	1084	512467
Sulfate	168237	1382	208	166647
Arsenic	.64	.026	.003	.611
Barium	12	.35	.35	11
Cadmium	1	.133	.008	.859
Chromium (Total)	11	.11	.04	10.9
Chromium (Hex)	1	.04	< .02	< 0.94
Chromium (Tri)	10	.07	≤ .022	≤ 9.98
Copper	24	13	.07	10.9
Iron	1218	535	4	679
Lead	8	.29	.15	7.59
Manganese	8	3	1	4
Mercury	.23	<.00003	< .0002	< 0.23
Selenium	.13	.002	.0009	0.11
Silver	.12	.01	.003	0.11
Zinc	37	11	6	20
Iron (Diss)	870	369	1	500
Nickel	35	22	.08	13

CER 067314

TABLE 7a

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: Rt 3 Sampling Manhole* SAMPLE TYPE: 24 hr Composite

SAMPLE DATE: 8/31/79

FLOW: 7.6682 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	450 mg/l	28,778
Alkalinity	-	-
Chloride	1,800 mg/l	115,112
Cyanide	< 0.01 mg/l	< .64
Fluoride	0.26 mg/l	17
Ammonia	300 mg/l	19,185
TKN	370 mg/l	23,661
Nitrate	24 mg/l	1,535
Oil & Grease	34 mg/l	2,174
pH	--	-
Phenol	15,000 µg/l	959
Phosphorus (Total)	3.9 mg/l	249
Phosphorus (Ortho)	1.1 mg/l	70
Solids (Total)	5,900 mg/l	377,311
Sulfate	1,500 mg/l	95,927
Arsenic	11 µg/l	.70
Barium	89 µg/l	6
Cadmium	23 µg/l	1
Chromium (Total)	250 µg/l	15
Chromium (Hex)	< 10 µg/l	< .64
Chromium (Tri)	< 240 µg/l	< 15
Copper	3,900 µg/l	249
Iron	24,000 µg/l	1,535
Lead	51 µg/l	3
Manganese	170 µg/l	10
Mercury	3.2 µg/l	0.2
Selenium	6.7 µg/l	4
Silver	5.4 µg/l	0.35
Zinc	1,200 µg/l	76
Iron (Diss)	21,000 µg/l	1,343
Nickel	1,700 µg/l	109

* Includes Monsanto, Cerro Copper-East, Village of Sauget

TABLE 7a
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: Rt. 3 Sampling Manhole* SAMPLE TYPE: 24 hr Composite

SAMPLE DATE: 10/2/79

FLOW: 6.956 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	2,400 mg/l	139,231
Alkalinity	0 mg/l	0
Chloride	380 mg/l	22,045
Cyanide	.014 mg/l	.81
Fluoride	0.47 mg/l	27
Ammonia	110 mg/l	6,381
TKN	190 mg/l	11,022
Nitrate	0.30 mg/l	17
Oil & Grease	67 mg/l	3,887
pH	1.8 -	-
Phenol	11,000 µg/l	638
Phosphorus (Total)	21 mg/l	1218
Phosphorus (Ortho)	4.7 mg/l	273
Solids (Total)	8,900 mg/l	516,316
Sulfate	2,900 mg/l	168,238
Arsenic	11 µg/l	.64
Barium	210 µg/l	12
Cadmium	21 µg/l	1
Chromium (Total)	200 µg/l	11
Chromium (Hex)	20 µg/l	1
Chromium (Tri)	180 µg/l	10
Copper	420 µg/l	24
Iron	21,000 µg/l	1218
Lead	150 µg/l	8
Manganese	140 µg/l	8
Mercury	4.0 µg/l	.23
Selenium	2.2 µg/l	.13
Silver	2.0 µg/l	.12
Zinc	650 µg/l	37
Iron (Diss)	15,000 µg/l	870
Nickel	620 µg/l	35

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*Includes Monsanto, Cerro Copper-East, Village of Sauget

TABLE 8

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: VILLAGE OF SAUGET* SAMPLE TYPE: 24 hr Composite

SAMPLE DATE: 10/2/79

FLOW: 0.100 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	41 mg/l	34
Alkalinity	250 mg/l	209
Chloride	31 mg/l	26
Cyanide	0.01 mg/l	.008
Fluoride	1.5 mg/l	1
Ammonia	4.6 mg/l	4
TKN	23 mg/l	19
Nitrate	0.18 mg/l	.15
Oil & Grease	460 mg/l	384
pH	6.3 - [illegible]	-
Phenol	1,300 µg/l	1
Phosphorus (Total)	8.5 mg/l	7
Phosphorus (Ortho)	3.6 mg/l	3
Solids (Total)	1,300 mg/l	1084
Sulfate	250 mg/l	209
Arsenic	3.7 µg/l	003
Barium	420 µg/l	.35
Cadmium	10 µg/l	.008
Chromium (Total)	46 µg/l	.04
Chromium (Hex)	< 20 µg/l	<.02
Chromium (Tri)	≤ 26 µg/l	≤ .022
Copper	88 µg/l	.07
Iron	5,700 µg/l	5
Lead	190 µg/l	.15
Manganese	2,000 µg/l	1
Mercury	< 0.2 µg/l	< .0002
Selenium	1.1 µg/l	.0009
Silver	3.6 µg/l	.003
Zinc	8,300 µg/l	6
Iron (Diss)	2,000 µg/l	2
Nickel	100 µg/l	.08

*Includes Sterling Steel and Rogers Cartage

CER 067317

TABLE 8a
(continued)

ANALYSIS RESULTS AND MASS LOAD CALCULATIONS

INDUSTRY: VILLAGE OF SAUGET* SAMPLE TYPE: 48 hr. Composite

SAMPLE DATE: 8/31/79

FLOW: 0 .100 MGD

PARAMETER	CONCENTRATION	MASS LOAD (#/day)
Acidity	10 mg/l	8.34
Alkalinity	440 mg/l	367
Chloride	31 mg/l	26
Cyanide	< 0.01 mg/l	< .008
Fluoride	13 mg/l	11
Ammonia	2.0 mg/l	2
TKN	9.5 mg/l	8
Nitrate	3.5 mg/l	3
Oil & Grease	84 mg/l	70
pH	-	-
Phenol	140 µg/l	.12
Phosphorus (Total)	5.1 mg/l	4
Phosphorus (Ortho)	0.38 mg/l	.32
Solids (Total)	2,000 mg/l	1668
Sulfate	70 mg/l	58
Arsenic	34 µg/l	.03
Barium	250 µg/l	.21
Cadmium	6.4 µg/l	.05
Chromium (Total)	40 µg/l	.03
Chromium (Hex)	≤ 10 µg/l	≤ .008
Chromium (Tri)	≥ 30 µg/l	≥ .03
Copper	68 µg/l	.06
Iron	8,200 µg/l	6
Lead	91 µg/l	.08
Manganese	370 µg/l	31
Mercury	< 0.2 µg/l	<.001
Selenium	5.4 µg/l	.005
Silver	2.6 µg/l	.002
Zinc	1000 µg/l	.83
Iron (Diss)	1,900 µg/l	1
Nickel	56 µg/l	.05

*Includes Sterling Steel and Rogers Cartage

CER 067318

SECTION IV - REVISION OF PRETREATMENT STANDARDS

Industrial Users Subject to Pretreatment Standards

As specified in the National Resources Defense Council (NRDC) Consent Decree of 1976 and 1979, 34 industrial categories will have national categorical pretreatment standards promulgated. These standards will limit the amounts of particular pollutants that can be discharged to municipal sewers.

In the Sauget industrial complex served by the Village of Sauget POTW, there are seven IU's potentially subject to categorical pretreatment standards. These industries are listed in Table 9. In accordance with Section 403.7, General Pretreatment Regulations([7]), these industries can apply (via the POTW) for authorization to revise any discharge limits (i.e. categorical pretreatment standards) promulgated for each specific industrial category. These applications shall be contingent on the currently demonstrated consistent removal that is accomplished by the present Village of Sauget POTW or the proposed new Regional POTW. The percentage removal of each parameter for which a pertinent categorical pretreatment standard is promulgated will be evaluated and authorization for standard revision will be requested in the applications.

Parameters Subject to Revision of Pretreatment Standard Application

At a minimum, any pretreatment standard promulgated that imposes limits on the parameters listed in Table 10 will be potentially subject to application for standard revision by the Village of Sauget.([8]) This application will be justified by influent and effluent data representing yearly and seasonal conditions and indicating the percentage removal data required for revision

([7]) Federal Register, Vol 46, No. 18, Part 403.7, Wednesday, January 28, 1981.

([8]) Federal Regsiter, Vol 46, No. 18, Part 403.7(c)(1), Wednesday January 28, 1981.

approval. The revised discharge limit being requested will be stated in the application once the pretreatment standard limit is promulgated and finalized.

TABLE 9

SAUGET INDUSTRIES POTENTIALLY SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

Industry	NRDC Consent Decree Category
AMAX Zinc, Inc.	Non-ferrous Metals
Cerro Copper, Inc.	Copper Forming
Clayton Chemical Co.	Organic Chemicals
Edwin Cooper, Inc.	Organic Chemicals
Midwest Rubber Reclaiming, Inc.	Rubber
Monsanto Company	Organic Chemicals
Sterling Steel Co.	Foundries

TABLE 10

INITIAL PARAMETER LISTING FOR REVISION OF
CATEGORICAL PRETREATMENT STANDARD

Parameter	Revised Limit Requested
Arsenic	All Limits Requested will be Based on Promulgated Final Categorical Pretreatment Standard
BOD_5*	
COD	
Cadmium	
Chlorinated Hydrocarbons	
Chromium	
Copper*	
Cyanide*	
Iron*	
Lead*	
Mercury*	
Nickel*	
Oil and Grease*	
pH*	
Phenolic Compounds*	
Silver	
Total Suspended Solids*	
Total Dissolved Solids	
Zinc*	

*Parameters currently monitored by the Village of Sauget POTW.

Determination of Revised Pretreatment Standards

National Pretreatment Standards will be established for specific industrial subcategories. The standards will be expressed as concentration limits and where possible, equivalent mass limits will be provided. Limits specified by Standards will apply to the effluent of the process regulated by the Standard.

When a regulated process effluent is mixed prior to treatment with wastewaters other than those generated by the regulated process, which is the case in the Sauget industrial complex, alternative discharge limits may be derived. These alternative limits may be derived by the Village of Sauget or the industrial user with written concurrence of the Village.([9]) Alternative limits, both daily maximum and long term average values, are calculated based on the limits established by the Pretreatment Standard. The limit calculated is accomplished by using the following formulae:([10])

Alternative Concentration Limit Formula

$$C_T = \frac{\sum_{i=1}^{N} C_i F_i}{\sum_{i=1}^{N} F_i} \quad \frac{F_T - F_D}{F_T}$$

C_T = Alternative concentration limit

C_i = Pretreatment Standard for pollutant in regulated stream i

F_i = Average daily flow of stream i (30 day ave.)

F_D = Average daily flow (30 day ave.) from: (continued next page)

([9]) Federal Register, Vol. 46, No. 18, Part 403.6(e), Wednesday, January 28, 1981

([10]) Ibid, Part 406.(e)(1)(i).

(1) boiler blowdown

(2) non-contact cooling streams

(3) sanitary wastestreams

(4) any wastestream which were or could have been exempted from Pretreatment Standards for one or more of the following reasons:

(a) the pollutants of concern are not detectable in the effluent from the Industrial User;

(b) the pollutants of concern are present only in trace amounts and are neither causing nor likely to cause toxic effects;

(c) the pollutants of concern are present in amounts too small to be effectively reduced by technologies known; or

(d) the wastestream contains only pollutants which are compatible with the POTW.

F_T = Average daily flow (30 day ave.) through the combined treatment facility including F_i, F_D and unregulated streams

N = the total number of regulated streams

Alternative Mass Limit Formula

$$M_T = \sum_{i=1}^{N} M_i \quad \frac{F_T - F_D}{\sum_{i=1}^{N} F_i}$$

M_T = Alternate mass limit

M_i = Pretreatment Standard mass limit for pollutant in regulated stream i

F_i = (as previously indicated)

F_D = (as previously indicated)

F_T = (as previously indicated)

N = (as previously indicated)

Alternative Limits Monitoring Requirements

Particular self-monitoring requirements to insure compliance with the alternative limit will be specified by referencing the requirements stated with the appropriate Pretreatment Standard. These requirements will include type and frequency of sampling, analysis and flow measurement.

Revision of Pretreatment Standards to Reflect POTW Removal of Pollutants

The application for revision of Pretreatment Standards must meet certain criteria and the POTW must follow certain procedures to receive authorization.

The application for standard revision must contain documentation of consistent removal at the POTW of the pollutant for which revision is being sought. Consistant removal is defined as the average of the lowest 50 percent of the removals measured according to specific procedures.([11]) Each Pretreatment Standard will specify whether or not a removal allowance may be granted for indicator or surrogate pollutants that could be used to demonstrate removal. The contents of application to revise discharge limits is as follows:

1. A list of pollutants for which discharge limit revisions are proposed;
2. POTW influent and effluent operational data demonstrating consistent removal of the pollutants for which discharge limit revisions are prepared;
3. A list of the industrial subcategories for which revised Pretreatment Standards are being sought including the number of industrial users in each sbucategory and an identification

([11]) Federal Register, Vol 46, No. 18, Part 403.7(a)(2), Wednesday, January 28, 1981.

of which subject pollutants are discharged by each subcategory;

4. Proposed revised discharge limits for each subject industrial subcategory;
5. Data showing the concentrations and amounts of subject pollutants in the POTW's sludge;
6. Description of the POTW's current sludge disposal method and data demonstrating that current sludge disposal methods comply with all applicable sludge disposal regulations; and
7. A certification statement to accompany the application and signed by a principal executive officer, ranking elected official or other duly authorized employee if such employee is responsible for overall operation of the POTW. The statement shall be as follows: "I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that this information was obtained in accordance with the requirements of § 403.7(d)([12]) Moreover, based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein. I believe that the submitted information is true, accurate and complete, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Data Collection Procedures

Data submitted to document consistent removal of pollutants by the POTW must meet the following requirements:

([12]) Ibid, Part 403.7(6)(2)(ii).

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1. Data shall be representative of yearly and seasonal conditions;
2. Data shall be representative of the quality and quantity of normal effluent and influent flow of the POTW;
3. Influent and effluent operational data shall meet the following criteria:
   (a) obtained through 24-hour flow-proportional composite samples;
   (b) from samples collected manually or automatically, and discretely or continuously;
   (c) discrete samples must contain at least 12 aliquots;
   (d) discrete samples may be flow proportional either by varying the time interval between each aliquot or the volume of each aliquot;
   (e) twelve (12) samples shall be taken at approximately equal intervals throughout one full year;
   (f) sampling must be evenly distributed over the days of the week so as to include non-work days as well as work days;
   (g) effluent sample collection need not be delayed to compensate for hydraulic detention unless the POTW elects to do so or the Approval Authority requires it;
   (h) grab samples shall be taken when composite sampling is not appropriate; and
   (i) analysis of samples shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

The POTW may utilize an historical data base gathered prior to the effective date of the General Pretreatment Regulations for Existing and New Sources (March 13, 1981). Utilization is subject to approval by the Approval Authority. At least one year of data must be used.

4. Data on sludge characteristics shall meet the following criteria:
   (a) data shall be obtained through composite sampling and each composite shall consist of a minimum of 12 discrete samples taken at equal time intervals over a 24 hour period;
   (b) grab samples shall be taken where a composite sample is not appropriate; and
   (c) sampling and analysis shall be performed in accordance with 40 CFR, Part 136 and amendments thereto.

Calculation of Revised Discharge Limits

Proposed revised discharge limits for an industrial subcategory are calculated utilizing the following formula:

$$Y = \frac{X}{1-r}$$

where: X = Pretreatment Standard ([13])

r = POTW's Consistent Removal rate for the pollutant (percentage expressed as a decimal)

Y = Revised discharge limit

Removal for a specific pollutant as determined by measuring the difference between the concentration of the pollutant in the influent and effluent

([13]) Though not specified in Regulations, it is assumed that an Alternative Limit as previously explained in this Section IV could be used in lieu of the Categorical Pretreatment Standard.

of the POTW and expressing the difference as a percent of the influent concentration. In calculating revised discharge limits, the revision shall apply equally to all industrial users subject to the Pretreatment Standard.

SECTION V - EXISTING SLUDGE DISPOSAL PRACTICES

Current Disposal Method

Filter cake sludge generated by the Village of Sauget POTW is hauled by a private contractor to a landfill for disposal. The Village monitors the waste characteristics of the sludge generated, as required, to comply with the IEPA's Waste Disposal Permit Program. The Village has a sludge disposal permit from the IEPA and the landfill receiving the POTW sludge has the required status as designated by the IEPA for accepting this type of sludge. See Appendix B for copy of Village of Sauget Special Waste Disposal Permit.

In accordance with the General Pretreatment Regulations, any sludge sampling required in addition to that already accomplished shall be a grab sample representative of a 24 hour period. In addition, this sludge sampling will be correlated with any future and currently on-going POTW influent-effluent sampling program.

Effect of Pretreatment Standard Revision on Sludge Disposal

Revision of any categorical pretreatment standard will not affect the POTW's compliance with current IEPA sludge disposal criteria. If required, the POTW will submit additional data demonstrating this compliance.

SECTION VI - EXISTING INDUSTRIAL MONITORING PROGRAM

The Village of Sauget POTW currently conducts an industrial discharge monitoring program. The program has been in operation since 1977 and has well established procedures for monitoring the industries' influents to the plant. The POTW shall receive the full cooperation of the industries it serves including regular communication concerning potential problems due to unusual influent loadings.

Sampling Program

The Village monitoring program utilizes sampling manholes with permanently installed samplers and flow meters. Flow measurement at the sampling site is accomplished by ultrasonic type flow meters and samples are collected by peristaltic type composite samplers. Treatment plant personnel maintain a 7 day per week operation and maintenance schedule for the monitoring equipment. Composite samples are collected a minimum of three times per week and transported to the treatment plant's laboratory facility for analysis. Flow data for each of the sampling points is recorded at time of sample pickup. In conjunction with the sampling of the individual industrial waste streams, the influent and effluent of the POTW are sampled as required to insure NPDES permit compliance. This data is correlated to the sampling manhole data as necessary.

Analysis Procedures

All analysis procedures utilized by the treatment plant laboratory personnel are as stated in the current edition of Standard Methods ([14]) or Methods for Chemical Analysis of Water and Wastes.([15]) Parameters analyzed for by the

([14]) Standard Methods for the Examination of Water and Wastewater. Current Edition, A.P.H.A., A.W.W.A., W.P.C.F.

([15]) Methods for Chemical Analysis of Water and Wastes, Ohio, USEPA, March, 1979.

treatment plant as listed in Table 10 on Page 40. This list is supplemented as required by additional parameters.

SECTION VII - RECOMMENDED ADDITIONS TO INDUSTRIAL MONITORING PROGRAM

The existing Village of Sauget industrial user monitoring program provides the basic structure for meeting pretreatment program requirements. However, certain additions and modifications are recommended as necessary changes to: (1) totally fulfill all federal requirements, and (2) insure all industrial discharges are adequately and equitably regulated.

Additional Construction and Corrective Measures Recommended

It is recommended that these specific additions and modifications be made by the industrial users of the Village of Sauget POTW for self-monitoring and to the existing Village of Sauget POTW Industrial User monitoring network.

For the industries potentially subject to Categorical Pretreatment Standards, which includes AMAX Zinc, Inc., Cerro Copper, Inc., Clayton Chemical Co., Edwin Cooper, Inc., Midwest Rubber Reclaiming, Inc., Monsanto Co., and Sterling Steel Co., it is recommended that the following additions be made to monitor process discharges.

1. It is recommended that these industries provide necessary sampling points, sampling equipment and flow measuring devices that can accurately determine the quantity and quality of discharge from each regulated manufacturing process. A regulated process shall mean any process subject to Categorical Pretreatment Standards. The discharge monitoring equipment installed by these industries must have all monitoring capabilities required by Federal regulations pertaining to a promulgated pretreatment standard. This would include at a minimum, the capability of collecting 24 hour flow-proportional composite samples with a sampling frequency of at least one sample per hour.

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The locating of sampling points would be the responsibility of these industries as would insure the applicability of the sampling point to accurately characterize the discharge from a regulated process. All sampling point locations would be subject to review and approval by the Village of Sauget as necessary.

2. It is recommended that sampling manholes be constructed at points prior to connection into the municipal sewer system to enable characterization of discharge from the Mobil Oil Co. Depot, Robers Cartage Co., and Weise Planning and Engineering, Inc. The construction of these sampling points or necessary modifications to any existing sampling point would be the responsibility of the respective industry. The sampling points would have the necessary provisions for flow monitoring such as the installation of weirs or flumes.

3. It is recommended that Mobil Oil Co. Depot, Rogers Cartage Co. and Weise Planning and Engineering, Inc. provide flow measurement and sampling data on request by the Village of Sauget. This self-monitoring will be the responsibility of the respective industries to include obtaining the means by which the data is collected. This self-monitoring will be independent of any monitoring accomplished by the Village of Sauget to characterize the discharge from the aforementioned respective industries.

4. It is recommended that the portions of the Village of Sauget sewer system that are currently partially obstructed, and through which discharge from any industry flows, be cleaned and corrective

measures taken, if necessary, to prevent future obstruction occurrence. Accomplishing this recommendation will be the responsibility of the Sauget Sanitary Development & Research Association.

5. It is recommended that a current and accurate schematic be developed showing all industrial discharges into the Village of Sauget sewer system. This will be the responsibility of the Sauget Sanitary Development & Research Association to complete and to update as needed when any additions or changes are made in the system.

6. It is recommended that the Village of Sauget POTW obtain the means to or modify existing sampling equipment to provide POTW influent and effluent data that is collected commensurate with Federal regulations pertaining to revision of pretreatment standards. This includes the ability to collect composite, flow proportional samples with a minimum of 12 discrete samples collected at equal time intervals over a 24 hour period. This responsibility would be that of the Sauget Sanitary Development & Research Association.

Modifications to POTW Sampling and Analysis Procedures

Currently the Village of Sauget industrial monitoring program is sufficient to serve its primary purpose pf allocation of user charges and compliance with NPDES permit limitations. However, with development of pretreatment standards for those industrial categories discharging to the POTW, additional monitoring will be necessary to insure compliance with standards. Additionally, approved revision of categorical pretreatment standards due to consistent removal of the POTW requires substantiating data.

The POTW currently samples industries three times weekly. This procedure will be sufficiently frequent to monitor industrial effluents when used in conjunction with the required self-monitoring reports that must be submitted by the industrial users.

The POTW application for authorization to revise pretreatment standards must include data demonstrating consistent removal of the pollutant involved. The data must be representative of yearly and seasonal conditions and must be taken on each of three consecutive days. Each composite sample must contain at least 12 discrete samples and be proportional to flow. The POTW currently meets all of these sampling requirements through its weekly influent and effluent sampling program. Currently, influent samples are collected at intervals of 40,000 gallons of flow automatically and effluent samples at 15 minute intervals. This procedure provides the necessary data base for application for revision of pretreatment standards and is sufficient for monitoring industrial influent into the plant.

Therefore, the only addition recommended for the POTW sampling and analysis procedures is to expand the list of parameters monitored at the individual industry sampling manholes. However the scope of this expansion cannot be determined until pretreatment standards are promulgated.

SECTION VIII - INDUSTRIAL USER REPORTING AND MONITORING REQUIREMENTS

The industrial users of the POTW must develop the necessary procedures to comply with new self-monitoring and reporting requirements. The requirements must be complied with by the industries for the POTW to have an approved Pretreatment Program. The following requirements specified in the General Pretreatment Regulations([16]) must be complied with in addition to the information contained in this Pretreatment Program.

Reporting Requirements

1. Within 180 days after promulgation of a Pretreatment Standard, the Industrial User shall supply the Village of Sauget POTW with the following information:

   The nature and concentration of pollutants in the discharge from each regulated process from the industrial user and identification of the applicable pretreatment standards and requirements. The concentration shall be reported as a maximum or average level as provided for in the applicable pretreatment standard. If an equivalent concentration limit has been calculated in accordance with the pretreatment standard, this adjusted concentration limit shall also be submitted to the Village for review.

   A statement reviewed by an authorized representative of the Industrial User and sealed by a Professional Engineer registered in the State of Illinois, indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional

([16]) Federal Register, Vol. 46, No. 18, Part 403.12, Wednesday, January 28, 1981.

operation and maintenance (O&M) and/or additional pretreatment is required for the industrial user to meet the pretreatment standards and requirements; and

If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the shortest schedule by which the Industrial User will provide such additional pretreatment must be submitted to the Village. The completion date for additional pretreatment schemes in this schedule shall not be later than the compliance date established for the applicable pretreatment standard.

2. Within 90 days after the date for final compliance with an applicable pretreatment standard, each subject Industrial User shall submit a report to the Village of Sauget POTW. The report shall indicate the nature and concentration of all pollutants in the discharge from the regulated process which are limited by pretreatment standards and requirements. The average and maximum daily flow for these process units in the Industrial User's facilities which are limited by such pretreatment standards or requirements shall be listed. The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis and, if not, what additional O&M and/or pretreatment is necessary to bring the Industrial User into compliance with the applicable pretreatment standards or requirements. This report shall be signed by an authorized representative of the Industrial User and sealed by a Professional Engineer registered in the State of Illinois.

3. All Industrial Users subject to a pretreatment standard after the compliance date of the standard shall submit to the Village of Sauget POTW during each of the months of June and December of each year, a report indicating the nature and concentration of pollutants in the effluent which are limited by such pretreatment standards. In addition, this report shall include a record of all daily flows which exceeded the average daily flow during the reporting period.

Monitoring Requirements

When required by reporting procedures stated herein or prescribed by the POTW, each Industrial User subject to a pretreatment standard shall submit to the Village of Sauget POTW self-monitoring data from the results of sampling and analysis of his discharge. The frequency of this monitoring shall be prescribed in the applicable pretreatment standard. All Industrial Users submitting data shall maintain records on all samples collected. These records shall include:

1. The date, exact place, method, and time of sampling and names of the persons taking the samples;

2. The dates analyses were performed;

3. Who performed the analyses;

4. The analytical techniques/methods used; and

5. The results of the analyses.

The records shall be retained by the Industrial User for a minimum of 3 years.

SECTION IX - POTW REPORTING REQUIREMENTS

The Village of Sauget must comply with reporting requirements that deal with these aspects of the pretreatment program:

1. Timely implementation of the pretreatment program;

2. Receiving initial and continual authorization to modify pretreatment standards; and

3. Providing to the IEPA and/or US EPA, on request, any Industrial User reports received by the POTW.

Program Implementation Compliance

To insure timely implementation of the pretreatment program, the IEPA will monitor the program implementation by requiring submittal of progress reports. The progress reports shall be submitted to the IEPA no later than 14 days after the completion date stated in the implementation schedule (Section XIV) for a particular increment of progress.

The report shall include, as a minimum, the following information:

1. Whether or not the POTW accomplished that increment of progress to be completed by said date;

2. The date on which the POTW will complete the increment, if not completed;

3. Reasons for delay in implementation completion, and

4. Steps being taken by the POTW to return to the original schedule.

The maximum time between each report will be no more than 9 months.

Authorization to Modify Pretreatment Standards

The Village of Sauget POTW, upon receiving authorization to modify pretreatment standards, will submit to the IEPA, within 60 days after promulgation of a pretreatment standard, (for which authorization to modify has been approved) a report containing the information specified in the following description.

The report shall contain influent and effluent samples from the POTW collected on three consecutive days during the previous 60 day period. The samples shall be composites containing a minimum of 12 discrete samples taken at equal time intervals over the 24 hour period. The samples must be collected on a flow proportional basis. Where a composite sample is not appropriate, a grab sample may be taken.

The report shall contain data showing the concentrations and amounts of the parameter(s) in question that exists in the POTW's sludge. This data shall be collected during the same consecutive three day period that influent and effluent samples were collected. The samples shall be composites of a minimum of 12 discrete samples taken at equal time intervals over a 24 hour period. Where a composite sample is not applicable, a grab sample may be taken.

The report shall contain a specific description of the POTW's current sludge disposal method and data demonstrating that the disposal method complies with current IEPA and US EPA regulations governing sludge disposal.

The report will be submitted to the IEPA at 6 month intervals beginning with submission of the initial report. The report must be signed by a ranking elected official or authorized employee responsible for the operation of the POTW and/or Pretreatment Program.

Maintaining of Records

The Village of Sauget POTW shall maintain records of all monitoring activities and reports submitted to IEPA. This also includes any Industrial User self-monitoring reports submitted to the POTW. The records shall be retained for a minimum of three years.

The records shall include the following information for all samples:

1. The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;

2. The dates analyses were performed;

3. Who performed the analyses;

4. The analytical techniques/methods use; and

5. The results of such analyses.

Those records must be made available on request to the IEPA and US EPA.

SECTION X - LEGAL AUTHORITY

Federal Requirements

Specific legal authority enforceable in Federal, State and local courts must be obtained by the Village of Sauget to enforce the provisions of the pretreatment program.

The Village must have the legal ability to:([17])

1. Deny the introduction of any new pollutants to the POTW and/or prevent changes or increases in existing pollutant loads;

2. Require the Industrial Users of the POTW to comply with applicable pretreatment standards;

3. Require each Industrial User to develop a compliance schedule for installation of the technology required to meet applicable pretreatment standards;

4. Require each Industrial User to submit all notices and self-monitoring reports specified in Section VIII of this report;

5. Enter any premises of any Industrial User to carry out inspection, surveillance, and any monitoring procedures deemed necessary by the Village of Sauget POTW to determine compliance or non-compliance with applicable pretreatment standards and any other local requirements set forth in the pretreatment program;

([17]) Federal Register, Vol. 46, No. 18, Part 403.8(f)(1), Wednesday, January 28, 1981.

6. Obtain "injunctive relief" for non-compliance by any industrial user with any pretreatment standard, reporting requirement or other local pretreatment program regulation.

   The Village of Sauget POTW can exercise this authority by establishing an ordinance that specifies civil or criminal penalties for non-compliance with pretreatment program requirements.

Existing Authority

Review of existing agreements and authority possessed by the Village of Sauget POTW indicates that sufficient authority does not exist to enforce a pretreatment program meeting all Federal requirements.

The existing ordinance([18]) utilized by the Village is general in its wording of sections regarding limitations on discharges to its sewer system. Authority to enter Industrial User premises and the establishment of fines for non-compliance with the ordinance regulations is established in the ordinance. However, this authority, as worded, will not suffice when enforcing specific pretreatment program legal requirements.

Current authority for enforcing the sewer use ordinance exists with the Sauget Sanitary Development & Research Association.([19]) The Village Board, as the legal and authorized representative of the Village of Sauget, would be the reviewing authority for all pretreatment program related decisions.

([18]) Ordinance No. 380, adopted and approved May 7, 1974, as amended.

([19]) Agreement Between Village of Monsanto (sic) and Village of Monsanto (sic) Sanitary Development & Research Association, January 19, 1966.

Recommended Additional Legal Authority

It is recommended that a new sewer use ordinance be adopted by the Village of Sauget. This ordinance shall contain the legal authority requirements as enumerated in this Section IX and specify the self-monitoring and reporting requirements stated in Section VIII.

SECTION XI - PRETREATMENT PROGRAM ORGANIZATIONAL STRUCTURE

The Village of Sauget POTW has the necessary organizational structure already established to adequately operate the pretreatment program except for minor modifications.

The organizational structure and personnel requirements for administration of the pretreatment program are depicted in Figure 6. The responsibilities of the personnel are described in the following text.

Village Plant Manager

The overall administrative responsibility for the pretreatment program will rest with the Village Plant Manager (V.P.M.). This position currently exists with a single person who has intimate knowledge of industrial pollution control and the industrial sources within the treatment plant's service area.

The V.P.M. has the responsibility for making decisions pertinent to pretreatment policy by drawing upon information supplied by key subordinates. These decisions shall be discussed with the affected Users if they affect POTW operation. Specific functions of the V.P.M. will be expanded to include:

1. basic policy decisions;
2. management of budgetary needs;
3. personnel administration;
4. coordination with industry, municipal, State and Federal authorities;
5. review of all Industrial User required reports and sampling data;
6. review of treatment plant influent and effluent sampling data;

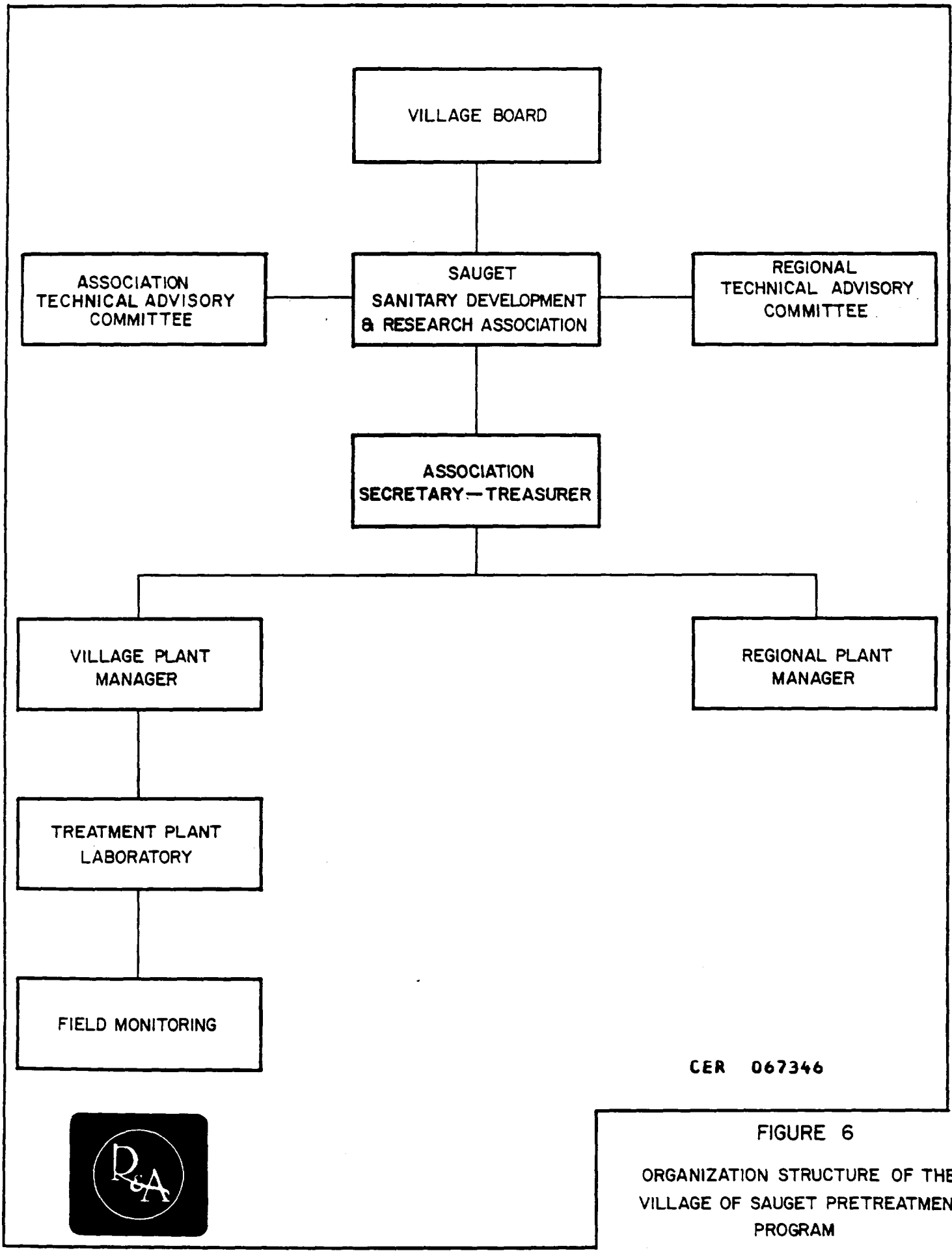

FIGURE 6

ORGANIZATION STRUCTURE OF THE VILLAGE OF SAUGET PRETREATMENT PROGRAM

7. notification of industries of non-compliance with pretreatment program requirements;
8. notification of pending enforcement actions; and
9. reviewing and submitting all required monitoring reports to the appropriate State and Federal authorities.

Laboratory Supervisor

The laboratory supervisor will have the responsibility of supervising the lab technicians as well as performing routine laboratory duties. He will report directly to the V.P.M. concerning industrial pollution matters. His duties will include establishing a system for quality control of analysis, recording all data in a usable format, reporting his observations to the V.P.M. as well as the overall operational tasks of the laboratory such as equipment and chemical procurement. This position currently exists in the POTW industrial monitoring program; the additional duties necessary to manage the expansion of analytical tasks will be the only change in present responsibility.

Laboratory Technician

As directed by the laboratory supervisor, the laboratory technician will be responsible for routine analytical tasks and associated work. The duties will include sample preparation, reagent preparation, maintenance of laboratory equipment as well as analysis. The treatment plant has one technician on a part time basis. One additional part time technician may be required to compensate for the program expansion and associated additional work load.

Field Monitoring Technicians

The field technicians will have the responsibility for collecting samples and flow measurement at the sampling sites. Their duties will include maintenance of specialized field equipment and performance of specific monitoring activities. The Village of Sauget currently utilizes one field technician; one additional technician may be required to perform the increased monitoring activities.

Staffing Requirements

The total staff requirements for administering the Village of Sauget pretreatment program are indicated in Table 11.

TABLE 11

ESTIMATED PERSONNEL REQUIREMENTS FOR VILLAGE OF SAUGET PRETREATMENT PROGRAM

PERSONNEL	TOTAL REQUIRED	PRESENT	NEEDED
Village Plant Manager	1	1	0
Village Plant Engineer	1 (part-time)	1	0
Laboratory Supervisor	1	1	0
Laboratory Technician	2 (part-time)	1 (part-time)	1 (part-time)
Field Monitoring Technician	1 + 1 (part-time)	1 (part-time)	1

SECTION XII - EVALUATION OF PRETREATMENT PROGRAM DEVELOPMENT COSTS AND FUNDING REQUIREMENTS

Industrial User Direct Costs

The expansion of the existing Village of Sauget industrial monitoring network will incur additional costs for some industries. Primarily, these costs will be for the construction of sampling manholes and purchase of sampling and flow measuring equipment. The costs will be incurred by the particular industry for which the increased monitoring is needed.

1. All capital costs incurred by AMAX Zinc, Inc., Cerro Copper, Inc., Edwin Cooper, Inc., Midwest Rubber Reclaiming, Inc., Monsanto Co., and Sterling Steel Co., for construction of sampling points and purchasing of all necessary monitoring equipment would be the sole responsibility of the respective industry incurring the cost. All operation and maintenance costs associated with self-monitoring including analysis costs would be the sole responsibility of the respective industry.

2. All capital costs incurred by Mobil Oil Co., Rogers Cartage Co., and Weise Planning and Engineering, Inc. for construction of sampling points would be the sole responsibility of the respective discharger incurring the cost. All costs for providing flow measurements and sampling data requested by the Village of Sauget would be the respective dischargers responsibility. This includes the cost of equipment rental or purchase, monitoring and analysis costs and any operation and maintenance costs.

Other Program Costs

Additional costs will be incurred that are directly related to the Village of Sauget Pretreatment Program but are however not specific to one industry versus another. These costs will be deemed the initial responsibility of Sauget Sanitary Development & Research Association (hereinafter referred to as Association) and further allocation of financial responsibility among the Industrial Users would be at the discretion of the Association. These costs are enumerated in the following listing.

1. All costs associated with the initial cleaning of those portions of the Village of Sauget sewer system through which industrial dischargers flow would be the responsibility of the Association. After the initial cleaning of the system, the cost of additional cleaning shall be allocated to the affected industry(s) as determined by the Association Board of Directors.

2. The cost of preparing an accurate sewer map and of updating that sewer map would be a cost of the Association.

3. All costs associated with routine maintenance of the existing sampling network would remain the responsibility of the Association.

4. All costs of routine sampling and analysis associated with the existing sampling network would remain the responsibility of the Association.

5. All costs associated with obtaining the means to collect POTW influent and effluent samples that meet the necessary Federal requirements for demonstration of consistent removal in terms of

revision of pretreatment standards would be the responsibility of the Association.

6. All costs associated with the routine operation of the Village of Sauget Pretreatment Program would be considered as a part of the Village of Sauget POTW operating budget and, hence, the responsibility of the Association.

7. All costs of specialized sampling and analysis of POTW influent and effluent samples that will be used as documentation of consistent removal to receive authorization for revision of pretreatment standards would be the responsibility of the respective industry(s) for which the revised standard will benefit. The costs would be the initial responsibility of the Association and further allocation to industry would be at the discretion of the Association.

Pretreatment Program Operational Costs

Operational costs for the pretreatment program will be similarly composed of those items normally included in the existing operating and maintenance budget for the Village of Sauget POTW. Additional operational costs will be incurred due to the increased POTW reporting requirements specified in Section VIII. Enforcement of pretreatment program requirements and pretreatment standards may incur legal expenses.

An estimated first year budget for operation of the Village of Sauget pretreatment program is presented in Table 12.

TABLE 12

ESTIMATED FIRST YEAR INCREASE IN EXISTING BUDGET TO OPERATE VILLAGE OF SAUGET PRETREATMENT PROGRAM

CATEGORY	ESTIMATED ADDITION TO BUDGET
Salary	$ 22,500
FICA	1,380
Medical	330
Insurance	3,500
Pension	790
Protective Clothing	500
Office Supplies	500
Telephone	500
Vehicle Expense	1,000
Repair and Maintenance	500
Legal & Accounting	15,000
Newspaper Notices	250
Specialized Sampling and Analysis	20,000
Consulting Services	5,000
Miscellaneous	1,000
TOTAL	$67,750

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SECTION XIII - PUBLIC PARTICIPATION PROCEDURES

The Village of Sauget POTW shall annually provide public notification in the Cahokia Daily Herald, a newspaper having a general circulation in the Village, there being no paper published in the Village, of Industrial Users violating applicable pretreatment standards.

Violations shall be those instances of noncompliance in the previous 12 months that meet these criteria:([20])

1. A violation which remains uncorrected for 45 days after notification of non-compliance, or

2. a part of a pattern of non-compliance over a 12 month period, or

3. which involves a failure to accurately report non-compliance.

([20]) Federal Register, Vol 46, No. 18, Part 403.8(f)(2)(vii), Wednesday, January 28, 1981.

SECTION XIV - COMPLIANCE SCHEDULE

The implementation of the Village of Sauget pretreatment program will follow a schedule that provides dates of compliance for increments of progress in implementing the program. It additionally will provide for industrial user compliance with pretreatment program requirements.

The proposed compliance schedule will be divided into the tasks listed in Table 13. These tasks will be initiated upon receiving approval to proceed with this pretreatment program. The compliance schedule must be considered as being tentative since if pretreatment standards are promulgated for an industrial user, a more rapid compliance may be necessary.

TABLE 13

IMPLEMENTATION AND COMPLIANCE SCHEDULE

Task Description	Anticipated Initiation/ Compliance Date
Industrial Users submit plans to POTW for compliance with construction requirements	6 mo. after program approval
POTW final approval of construction plans	8 mo. after program approval
Industrial User's begin construction	10 mo. after program approval
First reading of Pretreatment Ordinance	August 10, 1982
Public Hearing and second reading of Pretreatment Ordinance	September 14, 1982
Adoption of Pretreatment Ordinance	October 12, 1982
Publication of Pretreatment Ordinance for posting	October 13, 1982
Effective date of Pretreatment Ordinance	October 25, 1982
Recording of Pretreatment Ordinance and service upon Industrial Users	October 26, 1982
Deadline for filing application for Wastewater Discharge Permit	December 31, 1982
Issuance of Wastewater Discharge Permit	June 30, 1983
Industrial User's finish construction	June 30, 1983

A P P E N D I X A

INDUSTRIAL WASTE SURVEY
SURVEY

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date March 21, 1979

Company Name AMAX ZINC COMPANY, INC.

Address Route 3 and Monsanto Avenue, Sauget, Illinois
~~P. O. Box 2347, East St. Louis, Illinois 62202~~

Representative Completing Form J. E. Gorman Title Plant Manager

Phone No. 618 274-5000

No. of employees: shift 1 260 shift 2 60 shift 3 40

Type of Business (Manufacturer, Distributor, Retail): Manufacturer

Raw Materials	Amount Per Year (state units)
Zinc Concentrates	150,000 Tons

Products	Amount Per Year (state units)
Slab Zinc	80,000 Tons
Cadmium	400 Tons
Sulfuric Acid	117,000 Tons

Type of Process: Continuous X
Batch ____

Do you have an SIC classification? Yes If so, what is it? 3333
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Magnesium as total disolved solids in treated wastewater.

Is discharge to sewer: Intermittent ____ * Steady X Normally 5 days/week
Total quantity/day 400 (gal/day)
Est. or measured Measured

*Note: Sanitary Sewer Flows 7 Day/Week

CER 067357

Are wastes pretreated: yes X no ____

Describe pretreatment process: Lime Neutralization

How many connections to municipal sewer system: Four (Three Stormwater Sewers and One Sanitary and Treated Wastewater Sewer)

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	Storm Sewer	15 Dia.	VCP	S.E.corner of Plant to Sewer in Monsanto Avenue
(2)	Storm Sewer	21 Dia.	VCP	S.E.corner of Plant to Sewer in Monsanto Avenue
(3)	Storm Sewer	12 Dia.	VCP	S.W.corner of Plant to Sewer in Monsanto Avenue
	Ssanitary Sewer	12 Dia.	VCP	W.W.corner of Plant to Sewer in Monsanto Avenue

Are maps showing sewer connections available? Yes (Attached)

What waste products are disposed by other means: Wastewater Plant Sludge, Waste Lubricating Oil, General Trash, and Anode Scale.

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? No
When and for what duration? -

If so: Period of full production - to -
Period of limited production - to -
Period of no production - to -

Employees (No.) Max. ____ % of time at max. ____
Min. ____ % of time at min. ____

If not seasonal: Average no. of employees 340

Water Use:

Source(s) of water: City Water

If from Agency, Account No(s). ____

Water used for:

Sanitary	30,000	gpd
Air Conditioning	-	gpd
Process Water	670,000	gpd
Cooling Water (contact)	-	gpd
Cooling Water (non-contact)	-	gpd

Period of max. water use Uniform Amount 700,000 Gal/Day
Period of min. water use - Amount -
Water disposal other than sewer Evaporation % of Total 60%
Is water consumed in product? No Amount/day ____
Type and number of air pollution devices: None using water

Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? Amax Zinc Company
Are radioactive isotopes used in process? No Specify: ____

Russell & Axon 032-761-01-4

CER 067358

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date March 21, 1979

Company Name CERRO COPPER PRODUCTS CO.

Address P. O. Box 681, East St. Louis, Illinois 62202

Representative Completing Form Paul Tandler Title Vice Pres. - Mfg.

Phone No. 337-6000

No. of employees: shift 1 170 ~~(Nite)~~ shift 2 510 ~~(Day)~~ shift 3 220 (Evening)

Type of Business (Manufacturer, Distributor, Retail): Manufacturer

Raw Materials	Amount Per Year (state units)
Scrap Copper	110 MM Lbs.
Electrolytic Copper	17 MM Lbs.
Misc. Semi-Revined Copper	53 MM Lbs.

Products	Amount Per Year (state units)
Electrolytic Copper	75 MM Lbs.
Copper Tubular Products	135 MM Lbs.

Type of Process: Continuous X
Batch X

Do you have an SIC classification? Yes If so, what is it? 3331 3351
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Cooling Water and Process Wash Water

Is discharge to sewer: Intermittent _____ Steady .8 - 1.0 MGD
Total quantity/day _____ (gal/day)
Est. or measured _____

CER 067359

Are wastes pretreated: yes X no _____

Describe pretreatment process: Primary settling at Cerro Plant and physical-chemical treatment at Sauget Waste Water Treatment facility.

How many connections to municipal sewer system: 2

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	36" Round	Concrete	East	Dead Creek - Joins Monsanto Sewers
(2)	24" Round	Concrete	West	- Joins sewer system on west side of Ill. Route 3
(3)				

Are maps showing sewer connections available? Yes

What waste products are disposed by other means: Solid + and combustible liquid wastes by haulers

Annual Variations in Operation:

Is there a scheduled shutdown? Yes - 2 to 3 weeks in July
Is production seasonal? No
When and for what duration? -

If so: Period of full production - to -
Period of limited production - to -
Period of no production - to -

Employees (No.) Max. - % of time at max. -
Min. - % of time at min. -

If not seasonal: Average no. of employees 850

Water Use:

Source(s) of water: Illinois-American Water Co. and Deepwells.
If from Agency, Account No(s). 250-0320-0231 & 0252

Water used for:
Sanitary 10,000 gpd
Air Conditioning 10,000 gpd
Process Water 160,000 gpd
Cooling Water (contact) 345,000 gpd
Cooling Water (non-contact) 590,000 gpd

Period of max. water use February Amount 1,125,000 GPD
Period of min. water use July Amount 488,000 GPD
Water disposal other than sewer 10 % of Total
Is water consumed in product? No Amount/day
Type and number of air pollution devices: Wet Scrubbers - two in use. two dormant.
Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? Sauget Waste Treatment Plant
Are radioactive isotopes used in process? No Specify:

Russell & Axon 032-761-01-4

CER 067360

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date March 12, 1979

Company Name CLAYTON CHEMICAL CO.

Address 1 Mobile Ave., Sauget, Illinois 62201

Representative Completing Form B. R. Haney Title VP

Phone No. 271-0467

No. of employees: shift 1 5 shift 2 _____ shift 3 _____

Type of Business (Manufacturer, Distributor, Retail): _____

Raw Materials	Amount Per Year (state units)
Industrial Waste Solvent	1,000,000 gal/year

Products	Amount Per Year (state units)
Recycled Solvent	700,000 gal/year

Type of Process: Continuous X
Batch X

Do you have an SIC classification? _____ If so, what is it? _____
Do you have an existing Enviromental Control Program? No

Industrial Wastes

What waste products are disposed to sewer: Well water from condensers

Is discharge to sewer: Intermittent X Steady _____
Total quantity/day 20,000 (gal/day)
Est. or measured Est.

CER 067361

Are wastes pretreated: yes _____ no X

Describe pretreatment process: _____

How many connections to municipal sewer system: 1

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	8"	Clay	Sauget	Sauget Industrial Wastewater Plant
(2)				
(3)				

Are maps showing sewer connections available? _____

What waste products are disposed by other means: _____

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? No
When and for what duration? _____

If so: Period of full production _____ to _____
Period of limited production _____ to _____
Period of no production _____ to _____

Employees (No.) Max._____ % of time at max._____
Min._____ % of time at min._____

If not seasonal: Average no. of employees 5

Water Use:

Source(s) of water: Well, City
If from Agency, Account No(s)._____

Water used for:
Sanitary 50 gpd
Air Conditioning - gpd
Process Water 1,000 gpd Boiler water
Cooling Water (contact) _____ gpd
Cooling Water (non-contact) 100,000 gpd

Period of max. water use _____ Amount _____
Period of min. water use _____ Amount _____
Water disposal other than sewer _____ % of Total 0
Is water consumed in product? No Amount/day _____
Type and number of air pollution devices: None

Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? Mike Foresman
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4

CER 067362

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date March 14, 1979

Company Name EDWIN COOPER, INC.

Address Monsanto Avenue, Sauget, Illinois

Representative Completing Form Jim Sparks Title Env. Tech.

Phone No. 274-4000, Ext. 216

~~99-M thru F~~ Ave.

No. of employees: shift 1 34 shift 2 34 shift 3 34

Type of Business (Manufacturer, Distributor, Retail): Manufacturer

Raw Materials	Amount Per Year (state units)
See Attachment I	

Products	Amount Per Year (state units)
See Attachment II	

Type of Process: Continuous _____
Batch X

Do you have an SIC classification? Yes If so, what is it? 2899
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Alcohols, Maleic acid, nacl, hydroxide, acids

Is discharge to sewer: Intermittent _____ Steady 748,800 (Total effluent)
Total quantity/day _____ (gal/day)
Est. or measured Est.

CER 067363

Are wastes pretreated: yes _____ no X

Describe pretreatment process: _____

How many connections to municipal sewer system: 2

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	24" Round	Vitrified Clay	South Side, East	Monsanto Ave.
(2)	24" Round	Vitrified Clay	South Side, West	Monsanto Ave.
(3)	*New system being installed - Expected completion - November, 1980			
	Will be 42" Vitrified Clay - 1 connection south side, west - Monsanto Ave.			

Are maps showing sewer connections available? Yes

What waste products are disposed by other means: Filter cakes, waste oil

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? No
When and for what duration? _____

If so: Period of full production _____ to _____
Period of limited production _____ to _____
Period of no production _____ to _____

Employees (No.) Max. _____ % of time at max. _____
Min. _____ % of time at min. _____

If not seasonal: Average no. of employees 170

Water Use:

Source(s) of water: Illinois American Water Co.
If from Agency, Account No(s). _____

Water used for:
Sanitary 1,300 gpd
Air Conditioning 167,040 gpd - summer months
Process Water 450,720 gpd
Cooling Water (contact) - gpd
Cooling Water (non-contact) 72,000 gpd

Period of max. water use summer months Amount 691,060 gpp
Period of min. water use ~~winter months~~ Amount ~~524,620 gpp~~
Water disposal other than sewer None % of Total _____
Is water consumed in product? No Amount/day _____
Type and number of air pollution devices: _____

Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? M. R. Foresman
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4

CER 067364

ATTACHMENT I

RAW MATERIALS

Large Quantity Items

H_2SO4
Caustic
Alcohols
Solvents
Olefins
Poly Butene

Total Pounds of Raw Materials 288,661,370

ATTACHMENT II

PRODUCTS - MISC. OIL ADDITIVES

Unit	Pounds per Year
258	47,611,423
266	17,997,994
267	22,927,960
268	4,926,976
270	59,388,273
275	57,977,893
280	8,897,476

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date January 1, 1980

Company Name MIDWEST RUBBER RECLAIMING CO.

Address 3301 Mississippi Ave., Sauget, Illinois

Representative Completing Form R. Reinhardt Title Manager Project Engr.

Phone No. (618) 337-6400

No. of employees: shift 1 _____ shift 2 _____ shift 3 _____ Total 295

Type of Business (Manufacturer, Distributor, Retail): Rubber reclaiming

Raw Materials	Amount Per Year (state units)
Passenger car tires	
Tire parts, Peelings	(Confidential Numbers)
Inner tube - Butyl rubber	
Light color latex rubber	

Products	Amount Per Year (state units)
Same as above	

Type of Process: Continuous _____
Batch X

Do you have an SIC classification? Yes If so, what is it? 3031
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Rubber fines, clay as suspended solids, oils, Naoh, scrap tire fiber fines, cooling tower blowdown

Is discharge to sewer: Intermittent _____ Steady 272,000* (gal/day)
Total quantity/day _____
Est. or measured _____

*Includes blowdown for cooling tower of 0.04 mgd

CER 067367

Are wastes pretreated: yes _____ no X

Describe pretreatment process: _____

How many connections to municipal sewer system: One

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	21" Line		Northeast Corner of Plant @ Rt.3	
(2)				
(3)				

Are maps showing sewer connections available? Yes

What waste products are disposed by other means: Landfill solid waste composed of tire scraps, fiber, etc.

Annual Variations in Operation:

Is there a scheduled shutdown? Yes
Is production seasonal? No
When and for what duration? Usually two weeks during summer

If so: Period of full production _____ to _____
Period of limited production _____ to _____
Period of no production _____ to _____

Employees (No.) Max. 295 % of time at max. _____
Min. ? % of time at min. _____

If not seasonal: Average no. of employees _____

Water Use:

Source(s) of water: City water and well water

If from Agency, Account No(s). _____

Water used for:
Sanitary 2,000 gpd Est.
Air Conditioning 15,000 gpd and boilers, steam, etc.
Process Water 132,000+ gpd direct contact
(See Over) Cooling Water (contact) _____ gpd in process # above
Cooling Water (non-contact) 0.04 m gpd blowdown

Period of max. water use _____ Amount _____
Period of min. water use _____ Amount _____
Water disposal other than sewer _____ % of Total _____
Is water consumed in product? No Amount/day _____
Type and number of air pollution devices: 5,000 gal/day for several wet scrubbers and air pollution spray equipment
Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? Yes
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4

CER 067368

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date June 9, 1980

Company Name MOBIL OIL CORPORATION

Address 2000 South 20th, East St. Louis, Illinois 62206

Representative Completing Form P. D. Gates Title Mgr. Environment

Phone No. (312) 885-6123

No. of employees: ~~shift 1 xxxxxxxxxx shift 2 xxxxxxxxxx shift 3~~ 29 Total

Type of Business (Manufacturer, Distributor, Retail): Distributor

Raw Materials	Amount Per Year (state units)
N/A	

Products	Amount Per Year (state units)
Gasoline	
Fuel Oil	250,000,000 gallons

Type of Process: Continuous N/A
Batch N/A

Do you have an SIC classification? Yes If so, what is it? 5171
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: None

Is discharge to sewer: Intermittent N/A Steady N/A
Total quantity/day N/A (gal/day)
Est. or measured N/A

CER 067369

Are wastes pretreated: yes _____ no X

Describe pretreatment process: N/A

How many connections to municipal sewer system: 1

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	12" circular	Steel	#4 trap	Vicinity - 19th St.
(2)				and Monsanto Blvd.
(3)				

Are maps showing sewer connections available? No

What waste products are disposed by other means: None

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? No
When and for what duration? N/A

If so: Period of full production N/A to _____
Period of limited production N/A to _____
Period of no production N/A to _____

Employees (No.) Max. _____ % of time at max. _____
Min. N/A % of time at min. _____

If not seasonal: Average no. of employees 29

Water Use:

Source(s) of water: Illinois American Water Co.
If from Agency, Account No(s). 250-0324-0063-1

Water used for:
Sanitary 1,000 gpd
Air Conditioning --- gpd
Process Water --- gpd
Cooling Water (contact) --- gpd
Cooling Water (non-contact) --- gpd

Period of max. water use May - Sept. Amount 30,000 gallons per month
Period of min. water use Oct. - April Amount 15,000 gallons per month
Water disposal other than sewer None % of Total N/A
Is water consumed in product? No Amount/day N/A
Type and number of air pollution devices: 1 - Edwards Vapor Recovery Unit

Have waste streams been previously analyzed? N/A
Where can analysis results be obtained? N/A
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4

CER 067370

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date May 8, 1979

Company Name MONSANTO COMPANY

Address Sauget, Illinois 62201

Representative Completing Form Steve D. Smith (Ed Heumann) Title Senior Engr.

Phone No. 271-5835 Ext. 542

No. of employees: shift 1 800 shift 2 140 shift 3 100

Type of Business (Manufacturer, Distributor, Retail): Manufacturer

Raw Materials	Amount Per Year (state units)
Various organic and inorganic Chemicals	Millions of pounds

Products	Amount Per Year (state units)
Various organic and inorganic Chemcials	Millions of pounds

Type of Process: Continuous X
Batch ____

Do you have an SIC classification? Yes If so, what is it? 286, 2819, 2812, 2865
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Various organic and inorganic Chemicals

Is discharge to sewer: Intermittent ____ Steady 6 - 8 million (gal/day)
Total quantity/day ____
Est. or measured X

CER 067371

Are wastes pretreated: yes Some no _____

Describe pretreatment process: Sulfide and drum filter

How many connections to municipal sewer system: 2

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	42" Circular	VCP	South end of Plant	In field west of plant
(2)	15" Circular	VCP	North end of Plant	Along Monsanto Ave. (Near Route 3)
(3)				

Are maps showing sewer connections available? Yes

What waste products are disposed by other means: Various organic chemicals are incinerated or landfilled

Annual Variations in Operation:

Is there a scheduled shutdown? Various Dept.'s shut down periodically
Is production seasonal? No
When and for what duration? Various times - Time required for mechanical repair

If so: Period of full production See above to _____
Period of limited production See above to _____
Period of no production See above to _____

Employees (No.) Max. _____ % of time at max (Refer to front sheet(No.of Employee
Min. _____ % of time at min. " " " " " " "

If not seasonal: Average no. of employees (Refer to front sheet(No. of Employees)

Water Use:

Source(s) of water: City Water
If from Agency, Account No(s). Illinois-American WAter Co.

Water used for:
Sanitary * gpd
Air Conditioning * gpd
Process Water * gpd
Cooling Water (contact) * gpd
Cooling Water (non-contact) * gpd

Period of max. water use 8 AM - 10 AM Amount Apporx. 5,500 gpm
Period of min. water use 12 AM - 8 AM Amount Approx. 4,000 gpm
Water disposal other than sewer * % of Total _____
Is water consumed in product? Some Amount/day *
Type and number of air pollution devices: Various demisters and filters, electrostatic percipitators, scrubbers
Have waste streams been previously analyzed? Yes
Where can analysis results be obtained? Steve D. Smith
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4 *This Information is not available

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date May 9, 1980

Company Name ROGERS CARTAGE CO.

Address 2900 Monsanto Avenue, Sauget, Illinois

Representative Completing Form Al Adolfo Title Environmental Affairs

Phone No. 312 284-1300

No. of employees: shift 1 8 shift 2 60 shift 3 3 Varies

Type of Business (Manufacturer, Distributor, Retail): Trucking Co.

Raw Materials	Amount Per Year (state units)
N/A	N/A

Products	Amount Per Year (state units)
N/A	N/A

Type of Process: Continuous _____
Batch X

Do you have an SIC classification? No If so, what is it? _____
Do you have an existing Enviromental Control Program? Yes

Industrial Wastes

What waste products are disposed to sewer: Lube oil, plasticizer, anti-freeze, zinc and aluminum sulfate, fatty acid, crude petroleum treating compound, phenol, nitrogen solution, silicate washing compound, corn oil, syrup and some paint products.

Is discharge to sewer: Intermittent X Steady _____
Total quantity/day _____ (gal/day)
Est. or measured 33,807 Gals/Day

Figures are based on water bill consumption rate and are approximate.

CER 067373

Are wastes pretreated: yes X no _____

Describe pretreatment process: Free oils and solids are physically separated by a triple trap separator.

How many connections to municipal sewer system: 1

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	Circular		Monsanto Avenue	Same
(2)				
(3)				

Are maps showing sewer connections available? Yes

What waste products are disposed by other means: None

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? No
When and for what duration? N/A

If so: Period of full production N/A to _____
Period of limited production N/A to N/A
Period of no production N/A to N/A

Employees (No.) Max. N/A % of time at max. N/A
Min. N/A % of time at min. N/A

If not seasonal: Average no. of employees N/A

Water Use:

Source(s) of water: City of St. Louis
If from Agency, Account No(s). 250-0324-0147-0

Water used for:
Sanitary _____ gpd
Air Conditioning _____ gpd
Process Water _____ gpd
Cooling Water (contact) N/A gpd
Cooling Water (non-contact) _____ gpd

Period of max. water use _____ Amount _____
Period of min. water use _____ Amount _____
Water disposal other than sewer None % of Total _____
Is water consumed in product? _____ Amount/day _____
Type and number of air pollution devices: None

Have waste streams been previously analyzed? No
Where can analysis results be obtained? _____
Are radioactive isotopes used in process? _____ Specify: _____

Russell & Axon 032-761-01-4

CER 067374

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date May 3, 1979

Company Name STERLING STEEL CASTING CO.

Address 2300 Monsanto Avenue

Representative Completing Form A. K. Dalhaus Title Plant Engineer

Phone No. 337-6123

No. of employees: shift 1 164 shift 2 60 shift 3 3 or 4

Type of Business (Manufacturer, Distributor, Retail): Manufacturer

Raw Materials	Amount Per Year (state units)
Steel Scrap	3,500 Tons
Ferrosilicon and Ferro Manganese	50 Tons and 65 Tons
Other minor alloying elements	15 Tons Total

Products	Amount Per Year (state units)
Carbon and Low Alloy Steel Castings	3,600 Tons

Type of Process: Continuous _____
Batch X

Do you have an SIC classification? _____ If so, what is it? _____
Do you have an existing Enviromental Control Program? _____

Industrial Wastes

What waste products are disposed to sewer: Sanitary Waste and a small amount of non-contact cooling water.

Is discharge to sewer: Intermittent X Steady _____
Total quantity/day _____ (gal/day)
Est. or measured Refer to estimated usage as related to billings based on purchased water.

CER 067375

Are wastes pretreated: yes _____ no X

Describe pretreatment process: _____

How many connections to municipal sewer system: 1

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	8 inch	Not known		Monsanto Avenue
(2)				
(3)				

Are maps showing sewer connections available? At our building, not not at main.

What waste products are disposed by other means: Solids; by landfill.

Annual Variations in Operation:

Is there a scheduled shutdown? Yes
Is production seasonal? No
When and for what duration? _____

If so: Period of full production _____ to _____
Period of limited production _____ to _____
Period of no production _____ to _____

Employees (No.) Max. _____ % of time at max. _____
Min. _____ % of time at min. _____

If not seasonal: Average no. of employees 225

Water Use:

Source(s) of water: Illinois-American WAter Company
If from Agency, Account No(s). 250-0320-0315-0

Water used for:
Sanitary 95% gpd
Air Conditioning _____ gpd
Process Water _____ gpd
Cooling Water (contact) 4% gpd
Cooling Water (non-contact) 1% gpd

Period of max. water use Not Known Amount _____
Period of min. water use ~~July 20 to Aug.10,1979~~ Amount Not known
Water disposal other than sewer Evaporation % of Total Not Known
Is water consumed in product? No Amount/day _____
Type and number of air pollution devices: 5 cloth bag houses, several small cyclone type collectors.
Have waste streams been previously analyzed? Not known
Where can analysis results be obtained? _____
Are radioactive isotopes used in process? No Specify: _____

Russell & Axon 032-761-01-4

CER 067376

VILLAGE OF SAUGET, ILLINOIS WASTEWATER TREATMENT FACILITY

INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

Date May 29, 1980

Company Name WIESE PLANNING & ENG., INC

Address 1200 Queeny Sauget, Illinois 62206

Representative Completing Form W. O. Boker Title Manager

Phone No. 337-6070

No. of employees: shift 1 14 shift 2 2 shift 3 _____

Type of Business (Manufacturer, Distributor, Retail): Retail

Raw Materials	Amount Per Year (state units)
None	

Products	Amount Per Year (state units)
None	

Type of Process: Continuous _____
Batch _____

Do you have an SIC classification? No If so, what is it? _____
Do you have an existing Enviromental Control Program? No

Industrial Wastes

What waste products are disposed to sewer: Grease

Is discharge to sewer: Intermittent Yes Steady _____
Total quantity/day _____ (gal/day)
Est. or measured _____

CER 067377

Are wastes pretreated: yes _____ no X

Describe pretreatment process: _____

How many connections to municipal sewer system: 3

Describe connections:

	Size and Shape	Material	Plant Location	Connection Location
(1)	6" pipe			
(2)				
(3)				

Are maps showing sewer connections available? No

What waste products are disposed by other means: None

Annual Variations in Operation:

Is there a scheduled shutdown? No
Is production seasonal? _____
When and for what duration? _____

If so: Period of full production _____ to _____
Period of limited production _____ to _____
Period of no production _____ to _____

Employees (No.) Max. 15 % of time at max. 100
Min. _____ % of time at min. _____

If not seasonal: Average no. of employees 15

Water Use:

Source(s) of water: Illinois American Water Co.
If from Agency, Account No(s). _____

Water used for:
Sanitary X gpd + Steam cleaning
Air Conditioning _____ gpd
Process Water _____ gpd
Cooling Water (contact) _____ gpd
Cooling Water (non-contact) _____ gpd

Period of max. water use _____ Amount _____
Period of min. water use _____ Amount _____
Water disposal other than sewer None % of Total _____
Is water consumed in product? _____ Amount/day _____
Type and number of air pollution devices: None

Have waste streams been previously analyzed? _____
Where can analysis results be obtained? _____
Are radioactive isotopes used in process? _____ Specify: _____

Russell & Axon 032-761-01-4

A P P E N D I X B

VILLAGE OF SAUGET
SLUDGE DISPOSAL PERMIT

OF SUPPL. FORM IL 752

PERMIT ISSUED

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL
• SPECIAL WASTE DISPOSAL APPLICATION

CARD TYPE | DATE 10/3/80 | L P S W C | AUTHORIZATION NUMBER 782169 | TRANS CODE C | DATE ENTERED (Agency Use) 10/08/80

WASTE HAULER

16/17 HAULER REGISTRATION NUMBER 0092 NAME S.C.D. SERVICES INC.

ADDRESS 1930 N. BROADWAY COMMUNITY ST LOUIS

COUNTY ST LOUIS STATE MO ZIP 63102 AREA CODE 314 TELEPHONE 241 3717

WASTE GENERATOR

GENERATOR CODE 1631210003 G NAME VILLAGE OF SAUGET

ADDRESS SEWAGE PLANT COMMUNITY SAUGET

COUNTY ST CLAIR STATE ILLINOIS ZIP 62201 AREA CODE 618 TELEPHONE 271-5235

GENERATOR CONTACT NAME STEVE SMITH

DUNS NUMBER _____ SIC CODE 4952

20/21 PROCESS NAME SEWAGE TREATMENT

WASTE CHARACTERISTICS

GENERIC WASTE NAME FILTER CAKE SLUDGE FROM STP

40/47 IUPAC WASTE NAME _____

TOTAL ANNUAL WASTE VOLUME 24000 VOLUME UNITS 1 WASTE PHASE 2

TRANSPORT FREQUENCY 2 WASTE CLASS (Agency Use) 80

1 = ONE TIME, 2 = DAILY, 3 = WEEKLY, 4 = BI-WEEKLY, 5 = MONTHLY, 6 = BI-MONTHLY, 7 = QUARTERLY, 8 = SEMI-ANNUALLY

1 = CUBIC YARDS, 2 = GALLONS

1 = SOLID, 2 = SEMI-SOLID, 3 = LIQUID, 4 = GAS

(Code either "1" for Low, "2" for Medium, or "3" for High as appropriate for columns 21 through 26):

50/57 INHALATION TOXICITY 1 | DERMAL TOXICITY 1 | INGESTIVE TOXICITY 2 | INFECTIOUS | REACTIVITY | EXPLOSIVE

FLASH POINT 0200°F ALPHA RADIATION (pCi/L) COMPOSITION 1

1 = ORGANIC, 2 = INORGANIC

60/67 PERCENT ACIDITY . PERCENT ALKALINITY . pH 9.9 PERCENT TOTAL SOLIDS 30.00 PERCENT ASH CONTENT .

KEY COMPONENT NAME	PERCENT	KEY COMPONENT NAME	PERCENT
1 STP SOLIDS	30.0	2 WATER	70
3		4	
5		6	

RECEIVED
OCT 08 1980
E.P.A. — D.I.P.C.

CER 067380

EPA/CERRO COPPER/EIL/PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE

CARD TYPE DATE 10/3/80 L P S W C AUTHORIZATION NUMBER 782169 TRANS CODE C DATE ENTERED (Agency Use) 10/08/80

WASTE CHARACTERISTICS

	METAL	KEY	TOTAL (PPM)	LEACH (PPM)	METAL	KEY	TOTAL (PPM)	LEACH (PPM)
	CN	01		0.6	Cu	02		5.9
	Ag	03			Hg	04		0.6
	As	05		120	Ni	06		430.0
	Ba	07			Pb	08		7.6
	Cd	09		72.0	Se	10		
	Cr	11		3.0	Zn	12		2500.0
	--				--			
	--				--			

MATL. REQT LEACH TEST FOR ANALYSIS

LABORATORY NAME ST LOUIS TEST INC LAB

CERTIFICATION NUMBER

REVIEWED BY: PAZ / Rama K. Chaturvedi

1 SITE CODE 1530450 1 SITE NAME E. ST LOUIS / S.C.A. MILAM

DISPOSAL METHOD 01 NEUTRALIZATION METHOD

STATUS C START DATE 01/16/81 EXPIRATION DATE 02/16/81

SIGNATURE (SITE OWNER) FOR: SCA SERVICES OF ILLINOIS INC. SIGNATURE (SITE OPERATOR)

2 SITE CODE 1170900 1 SITE NAME ROXANNA / SCA GRETON

DISPOSAL METHOD 01 NEUTRALIZATION METHOD

STATUS C START DATE 01/16/81 EXPIRATION DATE 02/16/81

SIGNATURE (SITE OWNER) FOR: SCA SERVICES OF ILLINOIS INC. SIGNATURE (SITE OPERATOR)

3 SITE CODE SITE NAME

DISPOSAL METHOD NEUTRALIZATION METHOD

STATUS START DATE / / EXPIRATION DATE / /

SIGNATURE (SITE OWNER) SIGNATURE (SITE OPERATOR)

4 SITE CODE SITE NAME

DISPOSAL METHOD NEUTRALIZATION METHOD

STATUS START DATE / / EXPIRATION DATE / /

SIGNATURE (SITE OWNER) SIGNATURE (SITE OPERATOR)

5 SITE CODE SITE NAME

DISPOSAL METHOD NEUTRALIZATION METHOD

STATUS START DATE / / EXPIRATION DATE / /

SIGNATURE (SITE OWNER) SIGNATURE (SITE OPERATOR)

ADM-1067 (REV. 7/78) (REV. 3/79)

CER 067381

EPA/CERRO COPPER/EIL/PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE